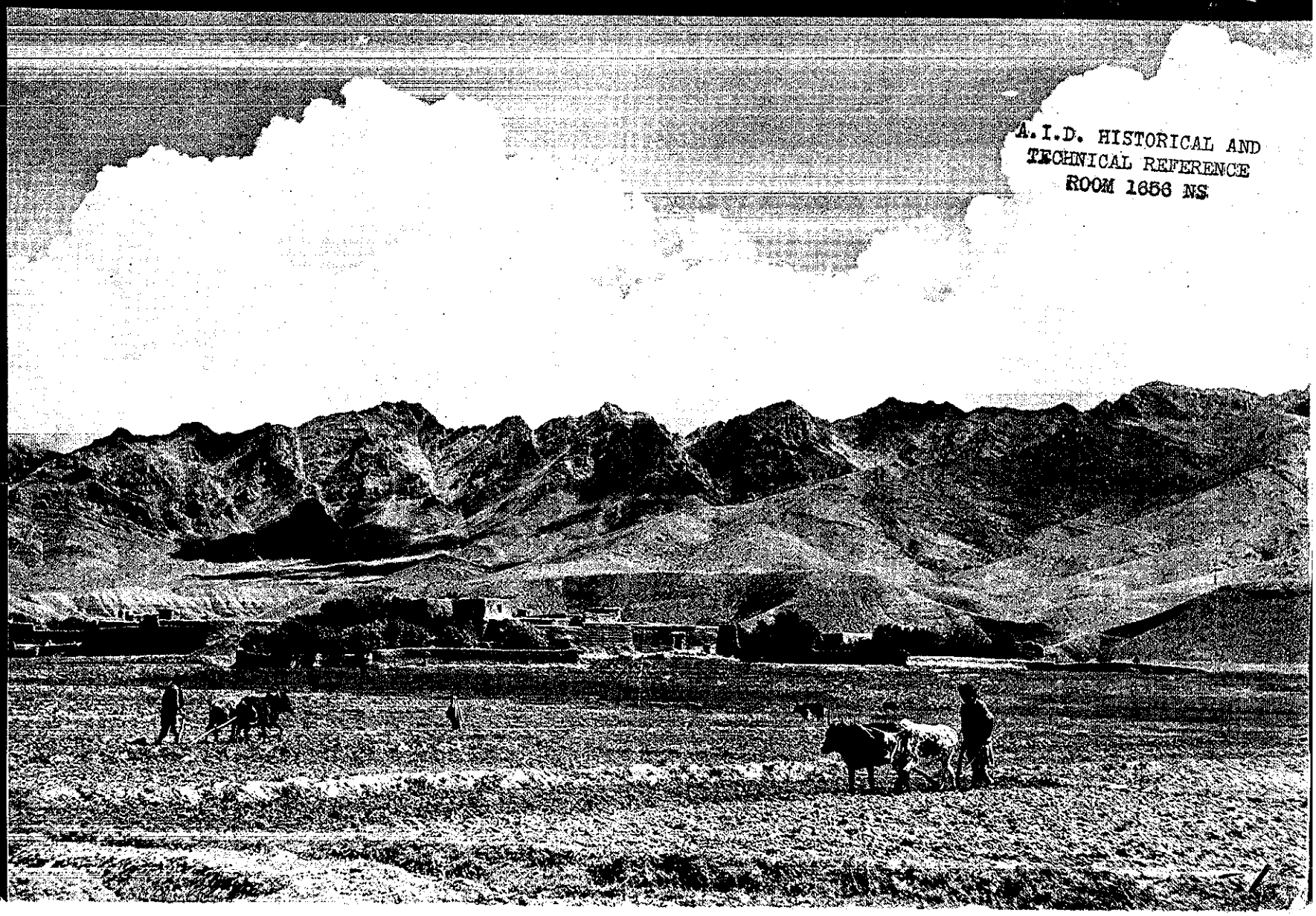
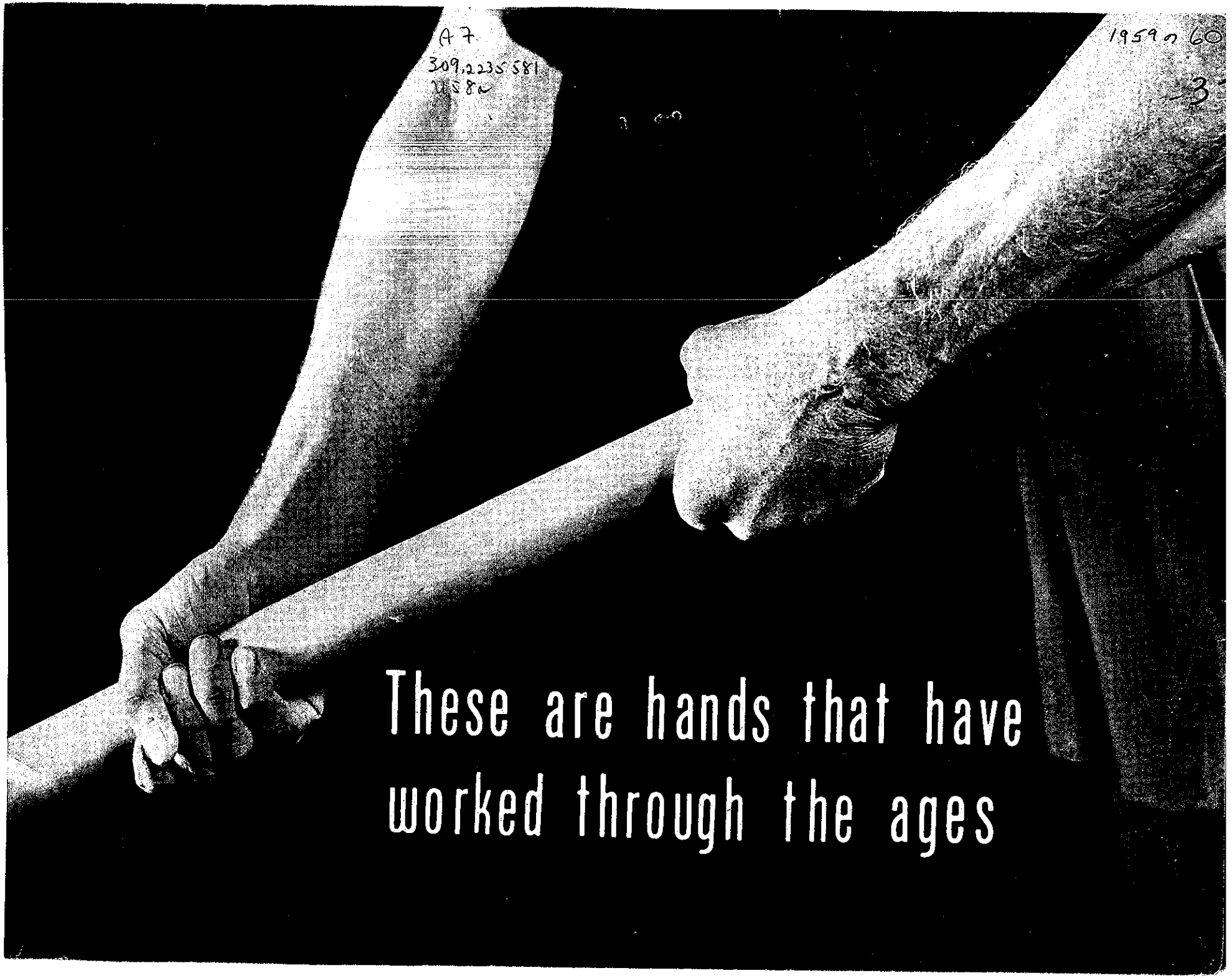
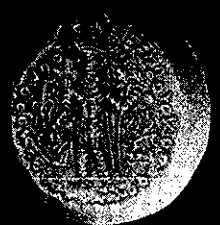
Afghanistan Builds on an Ancient Civilization



U.S. Operations Mission/Afghanistan. Communications Media Branch. Afghanistan builds on an ancient civilization. 1959(?). 1 v. illus.

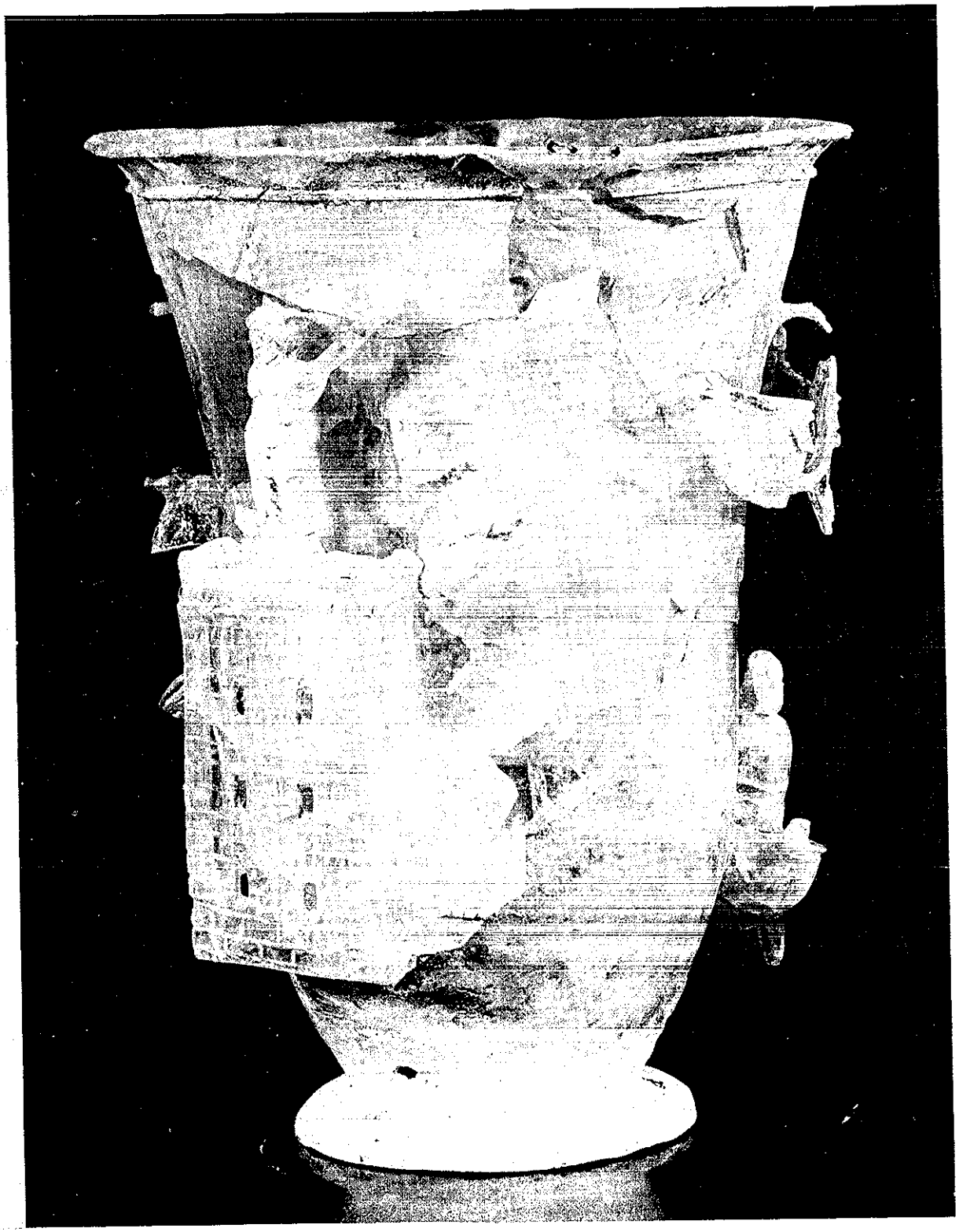
1.Technical assistance, American - Afghanistan. I.Title.





giving Afghanistan

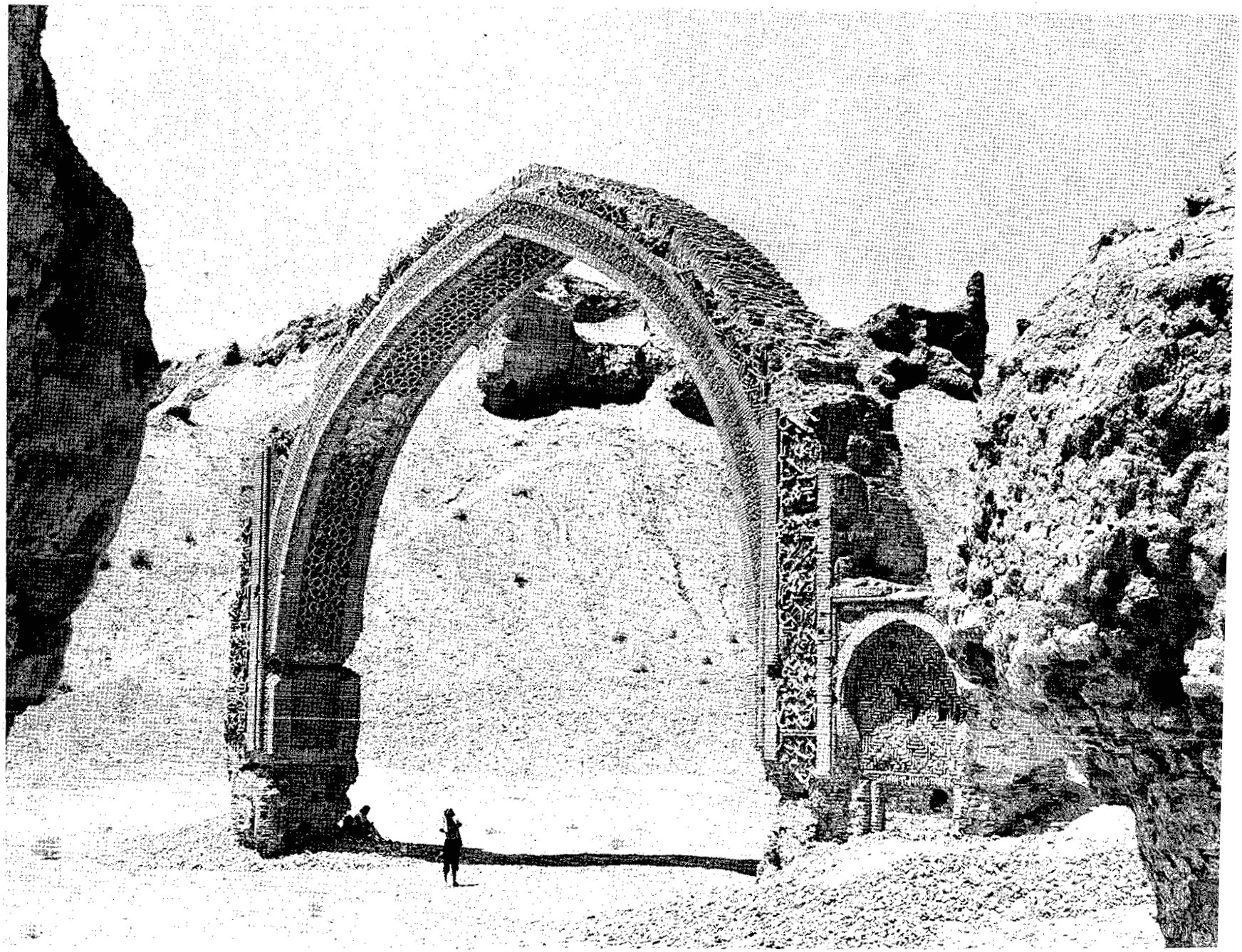
a rich history



THIS RARE FIND -- the "Vase of Pharos" showing the Lighthouse of Alexandria -- was found at Begram in 1937. It dates from the 1st Century A.D. and is now housed at the Kabul Museum.

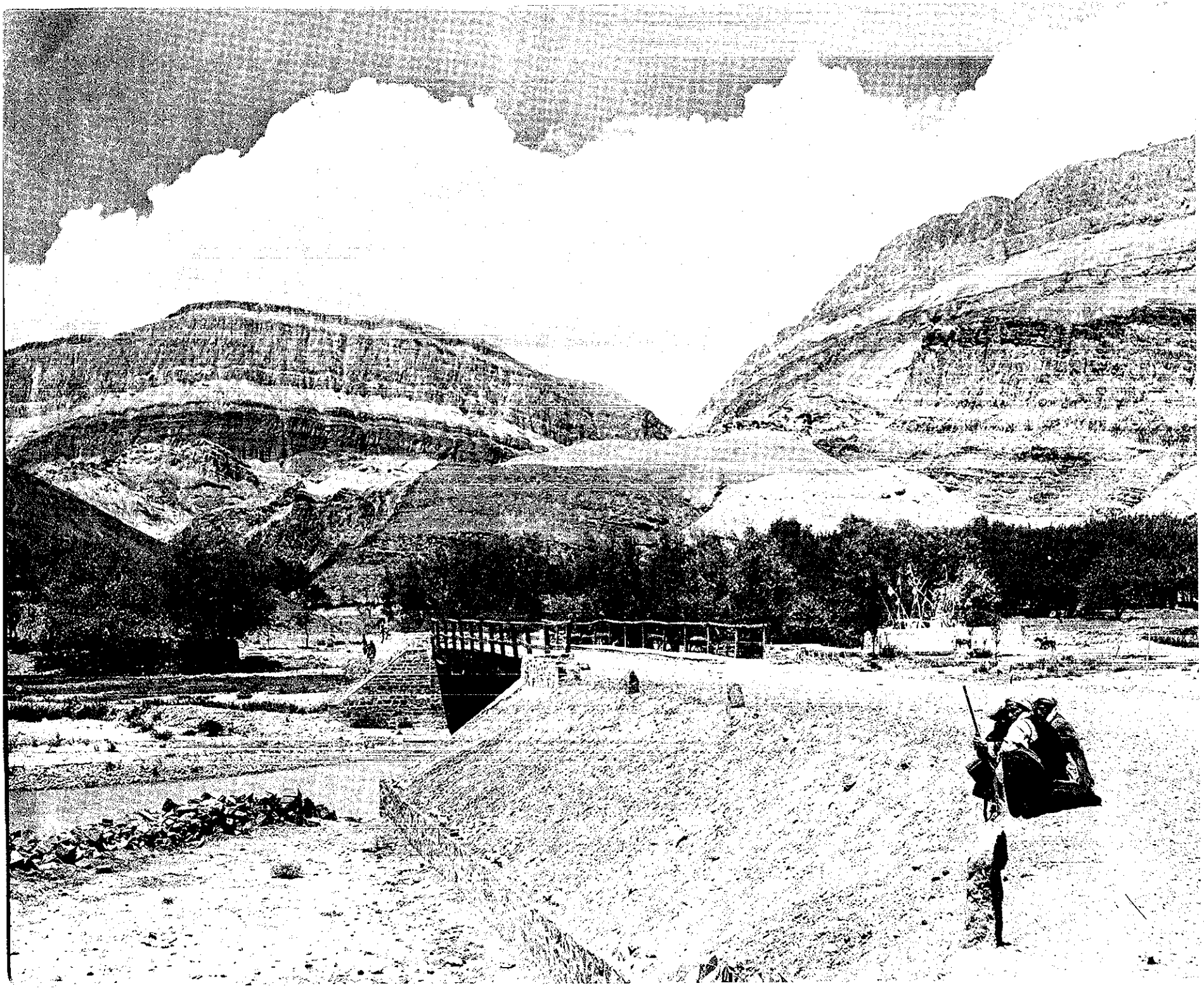
STUCCO HEAD of a Buddhist monk found at Hadda, 8 kilometers south of Jalalabad, in 1923. Dating from the 2nd Century A.D., its actual height is 30 centimeters (12 inches).

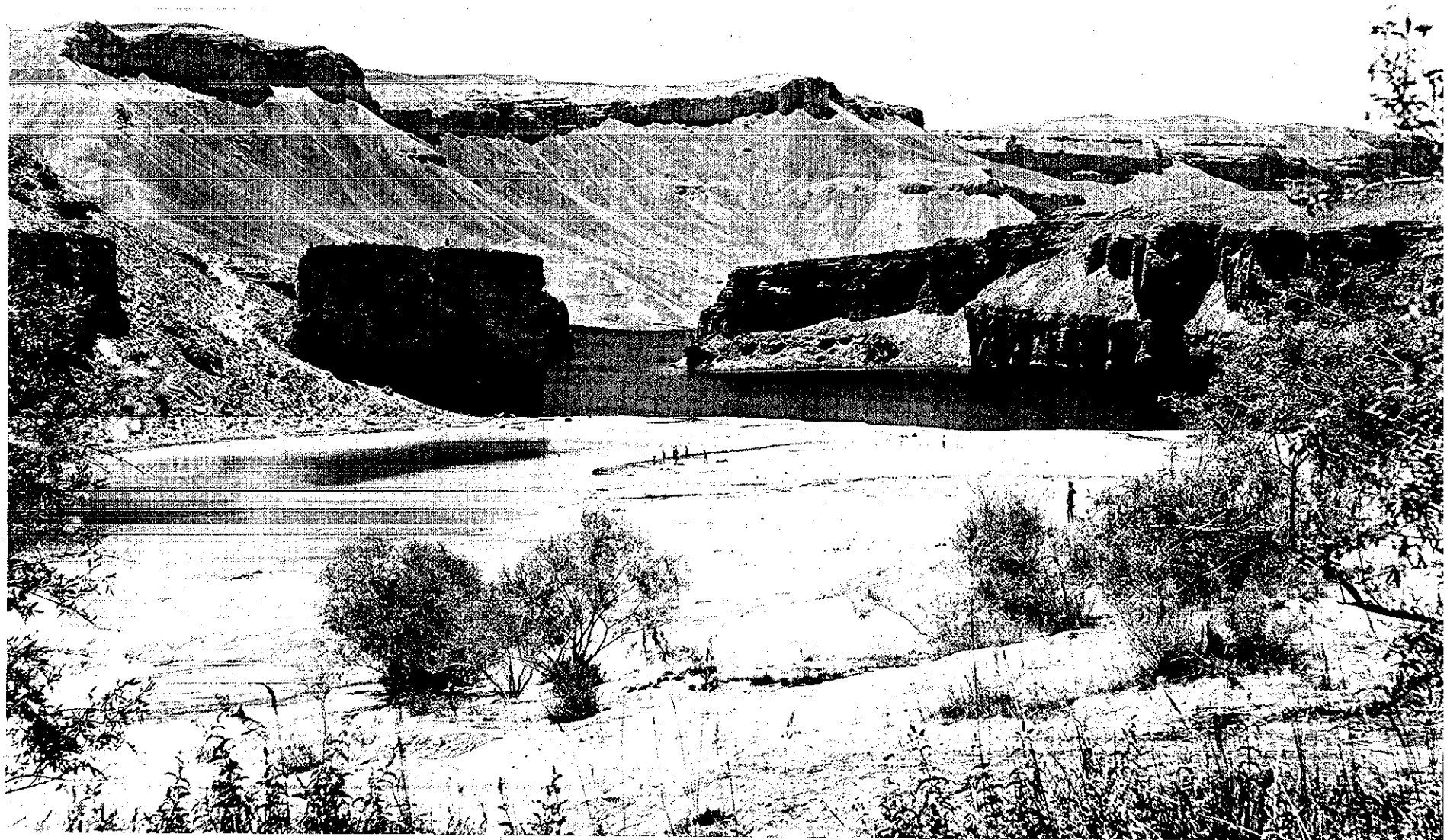
MILES OF grotesquely-shaped ruins jut from the white, salty sand flats of the Chakhansur region - - once called the "Bread Basket of Asia."



THE REMAINS of this majestic ceremonial arch at Qaleh Bist in southwest Afghanistan recall scenes of elaborate pageants and assemblies in the days of the Kushan Kings, 1st to 8th Centuries A. D.

THESE VIKING-LIKE heads were also discovered at the Hadda Buddhist site in 1923 by the French Archeological Mission. Over 1500 statues were found.

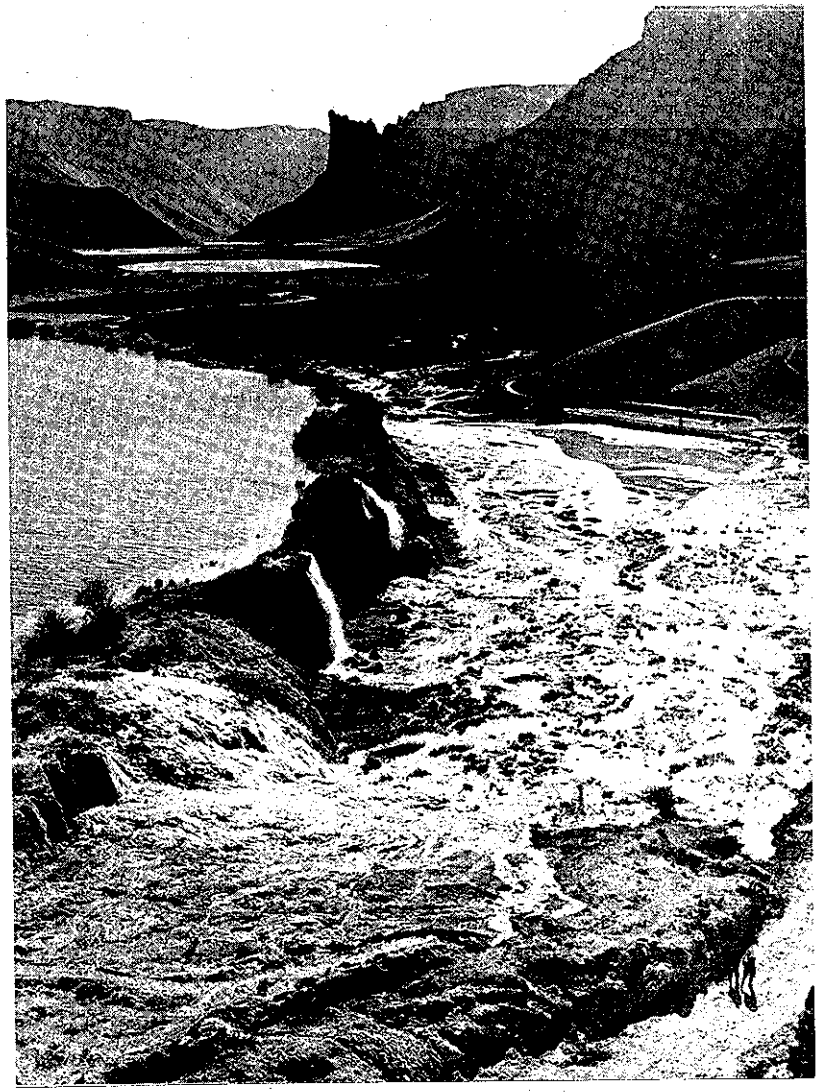




BAND-I-AMIR with its five mysteriously-formed lakes and natural dams, in central Afghanistan.

HE PASTEL-TINTED
uab cliffs, about 165 miles northwest
f Kabul.

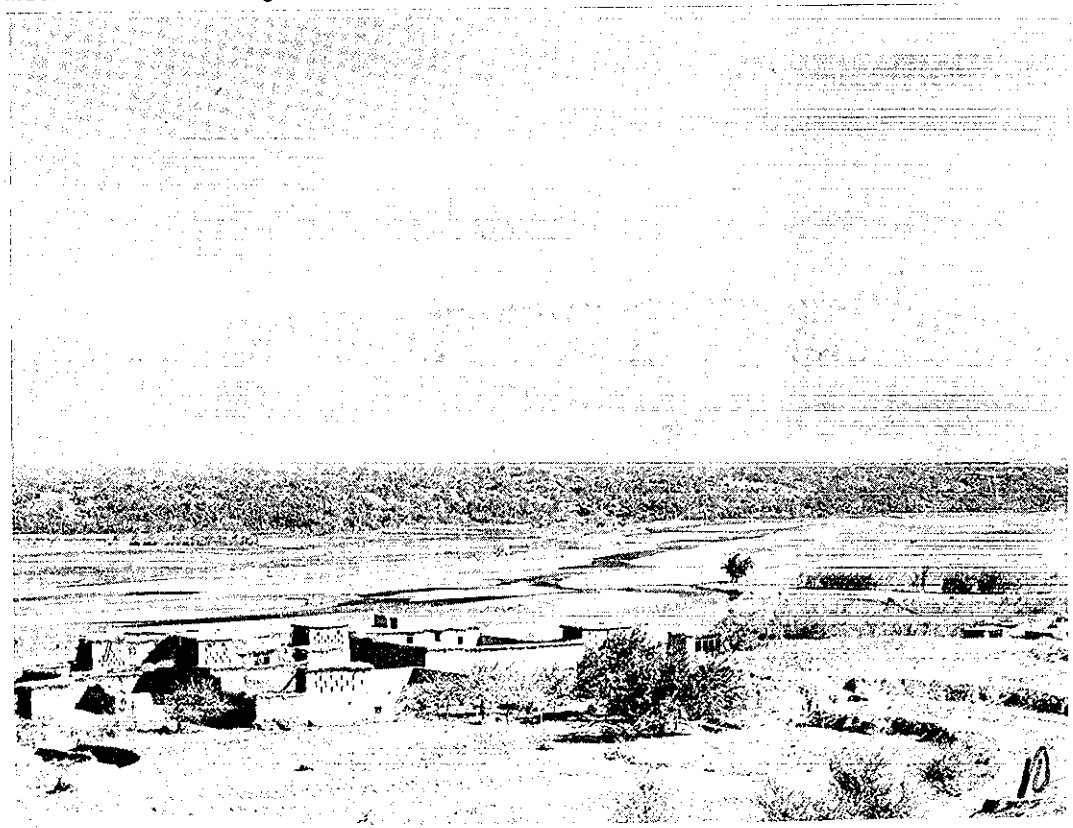
Beautiful scenery from the hand of God



WATERFALLS CASCADE 75 feet over the natural dam surrounding one of the brilliant blue Band-i-Amir lakes.

ARISTOCRATIC CAMEL trains travel through winding Ladabond Pass on the road to Kabul. About two million of Afghanistan's twelve million people are sturdy nomads. Undaunted by the rugged terrain, many are merchants and traders who each spring head toward central Afghanistan with their herds and supplies.

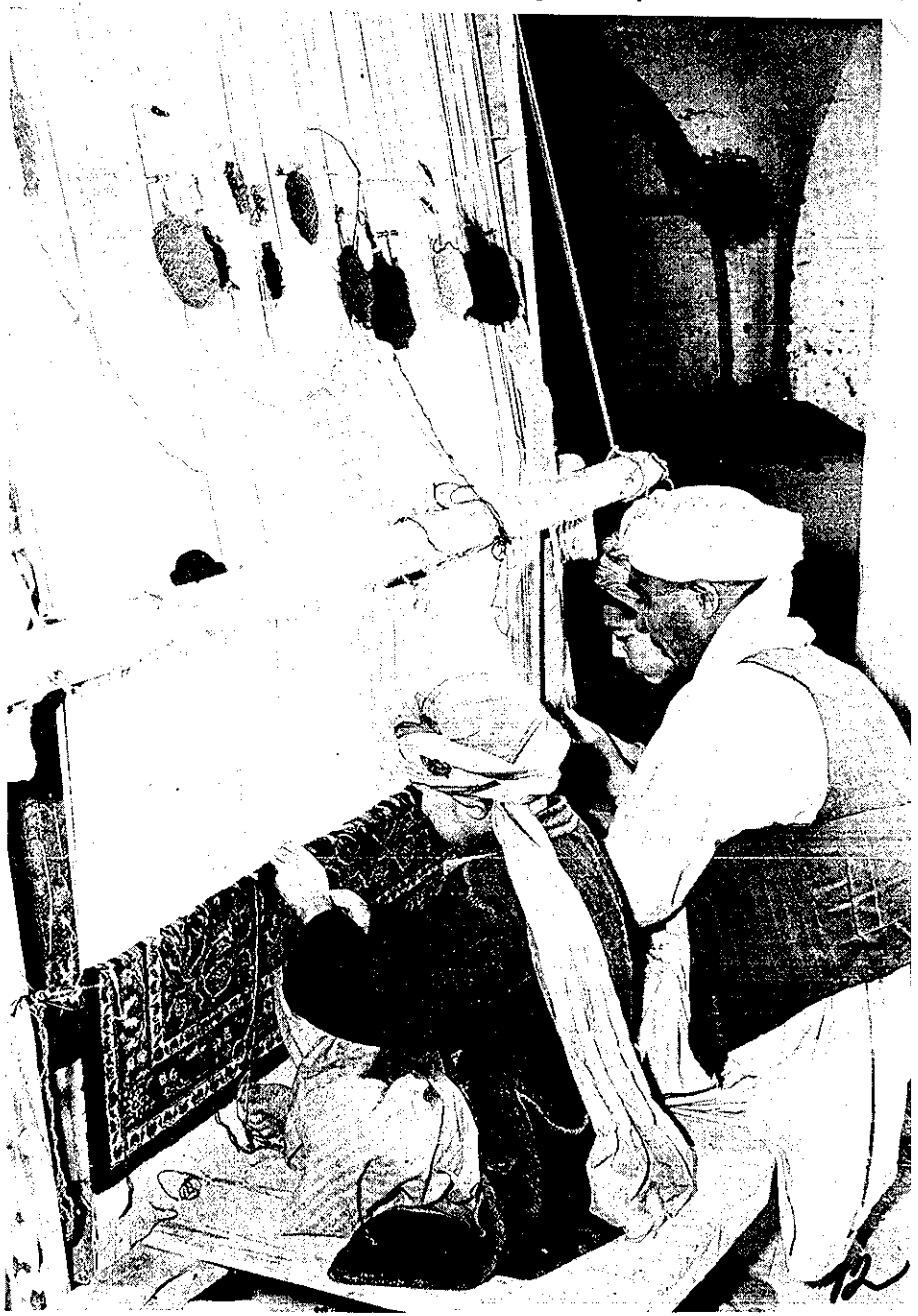
THE FAMOUS strategically-located city of Alexander the Great -- Alexandria-ad-Caucasum -- once stood at this site on the southern watershed of the mountains surrounding the Ghorband Valley. It dates from 320 B. C.



Afghanistan has skilled hands

STRINGING A LOOM to be used for making lengths of turban cloth in the city of Herat.

SOME OF THE FAMOUS Afghan carpets are woven in Hera

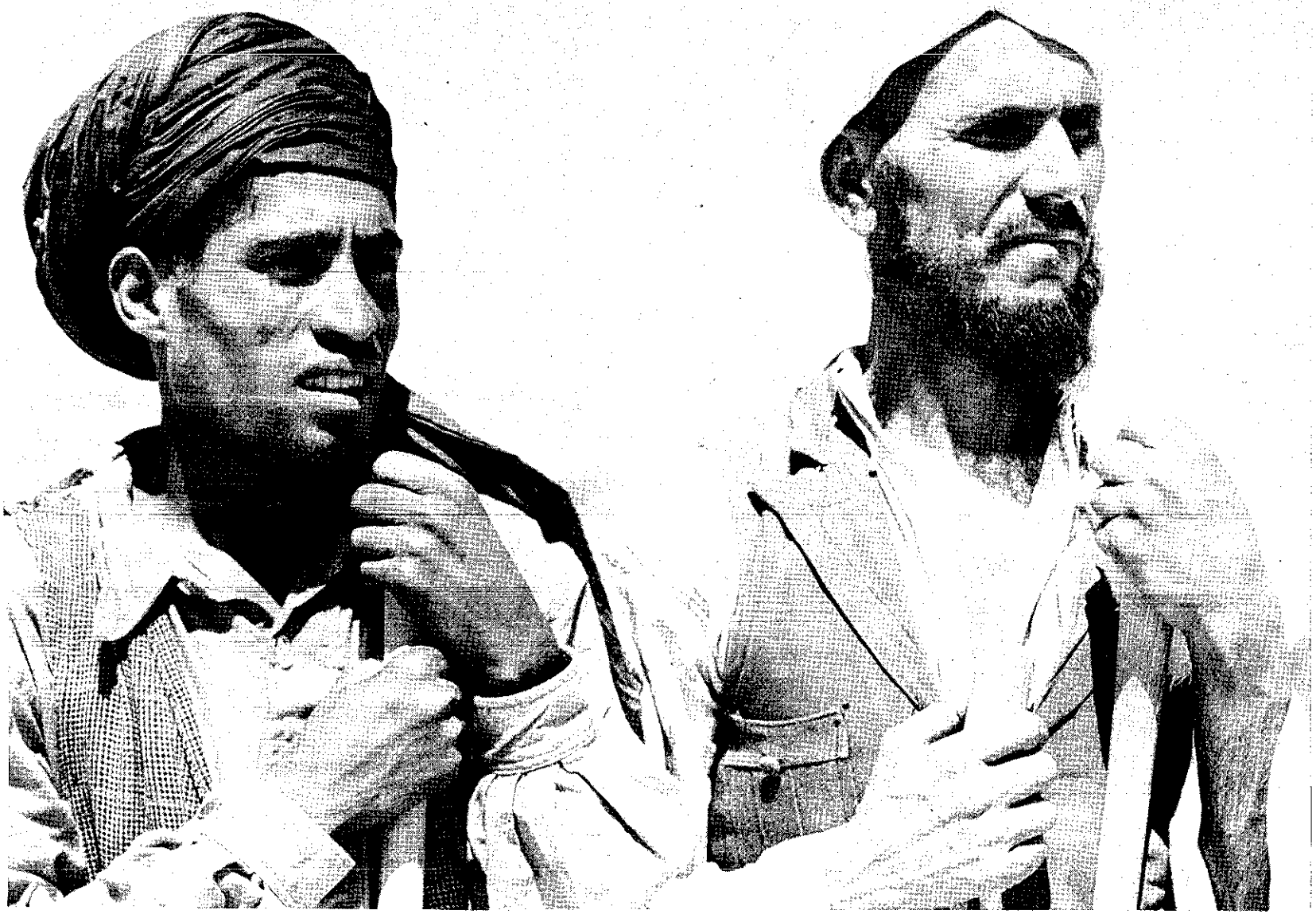


IN THE SPRING the nomads migrate to the high plateaus of central Afghanistan.

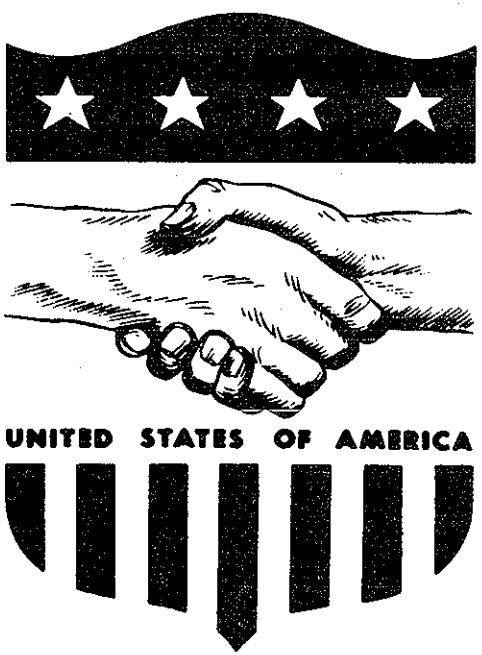
and untutored hands

But all are willing hands

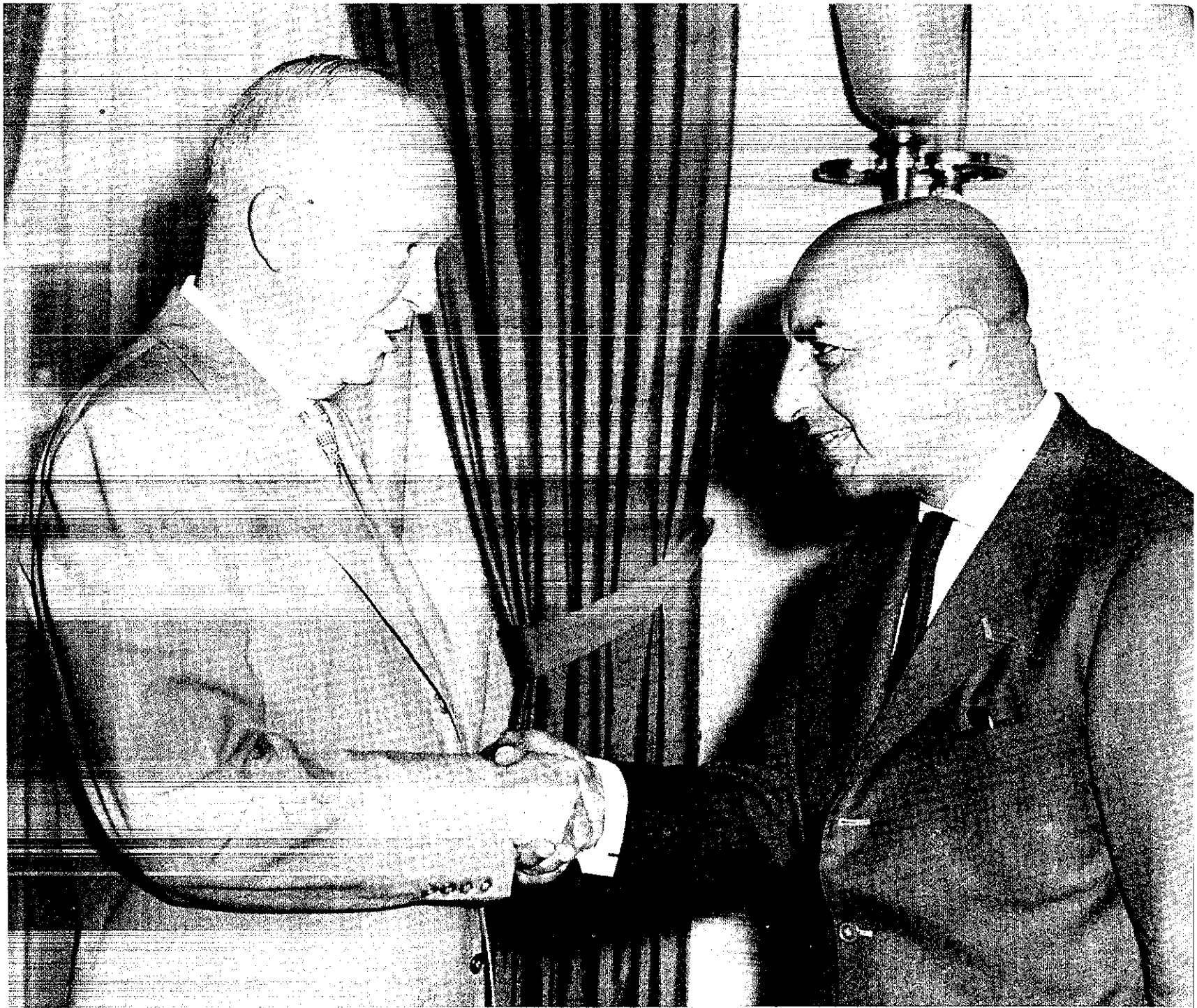
THESE FARMERS
have settled on new
Helmand Valley land.



AFGHANISTAN and the UNITED STATES have joined friendly hands in cooperation



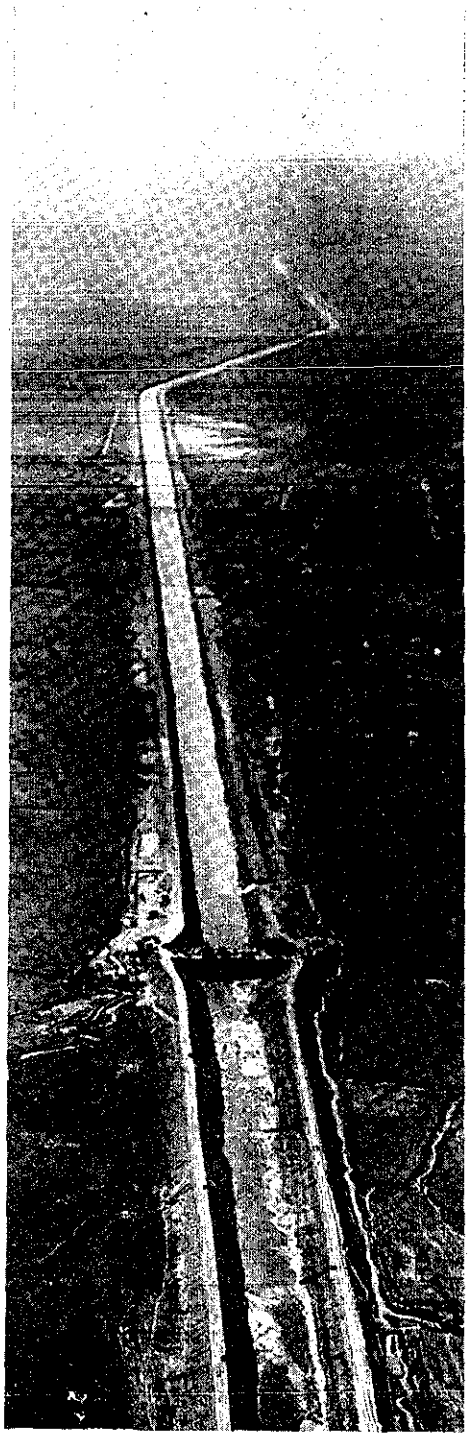
.....United States Operations Mission to Afghanistan.....

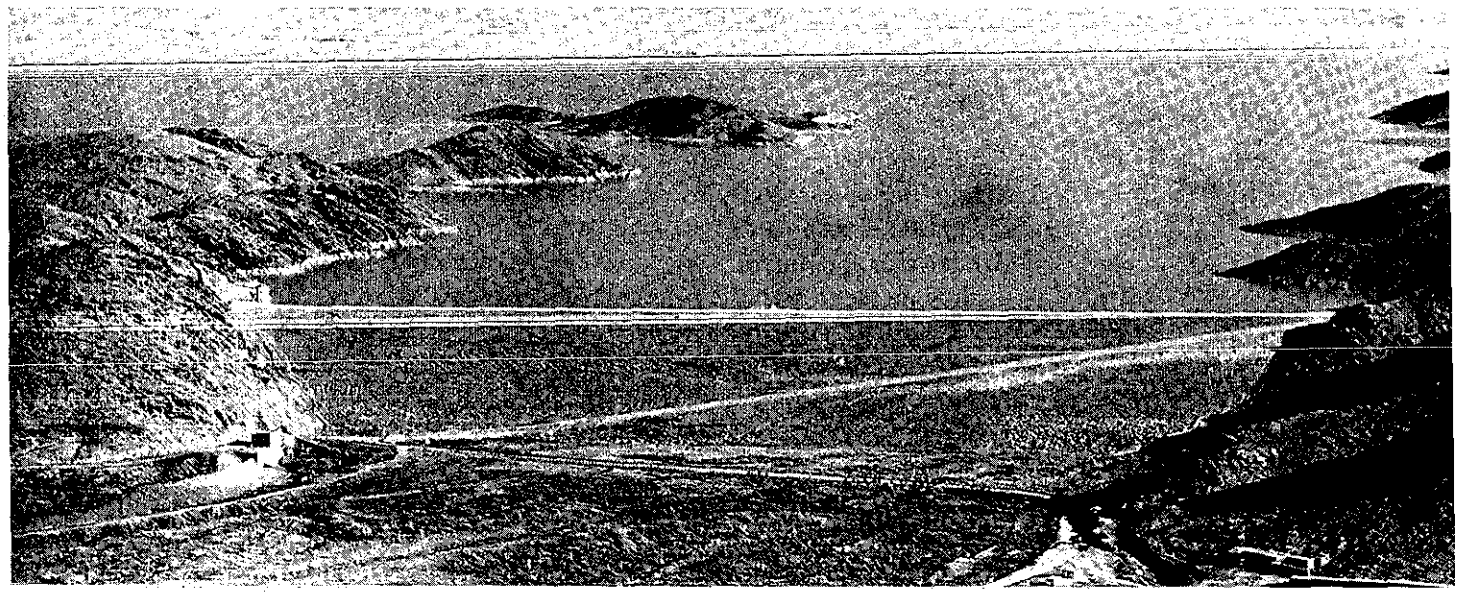


HIS ROYAL Highness Sardar Mohammed Daoud, Prime Minister of Afghanistan, and President of the United States Dwight D. Eisenhower reaffirm their determination to work for peace and security for all people. This picture, taken during the Prime Minister's visit to the United States in June 1958, is symbolic of the warm relations existing between the two countries.

HIS MAJESTY Mohammed Zahir Shah, King of Afghanistan.

HIS ROYAL HIGHNESS
Lemar-e-'Ala Sardar Mohammed
Daoud, Prime Minister of Afghanistan.





ONE-THIRD-MILE-LONG Arghandab Dam 20 miles northeast of Kandahar holds back a reservoir of 350,000 acre-feet of water, released through an 866-foot tunnel.

THE BOGHRA CANAL system (left) with its over 100 miles of irrigation facilities carries Helmand River waters to newly settled land.

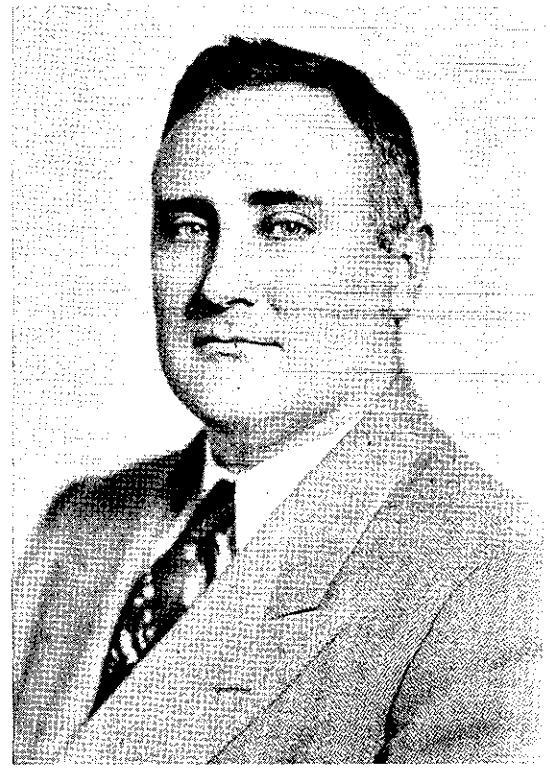
The first technical cooperation agreement between the United States and Afghanistan was made in February, 1951. Two governments from opposite sides of the globe joined hands to develop Afghanistan's economy, to encourage interchange of technical skills, and, as in all such partnerships, to strengthen understanding.

Afghanistan had already launched an ambitious land reclamation project in its arid southwest -- partly financed by a loan from the Export-Import Bank.

But scores of problems loomed ahead. How to determine how much water to store and release from the reservoirs? What should be planted first? Needs for technical assistance in soil testing, water-table control, seed selection, and irrigation were evident.

Since then the United States technical assistance program has expanded into all parts of the landlocked, central Asian kingdom. Projects run the gamut from education to entomology, from aviation to agriculture. Afghan leaders are eager to utilize the country's rich resources, to make a significant place for Afghanistan in Asia's economy.

From the Director's Desk:



This publication presents a general review of major development projects being carried on jointly by Afghanistan and the United States.

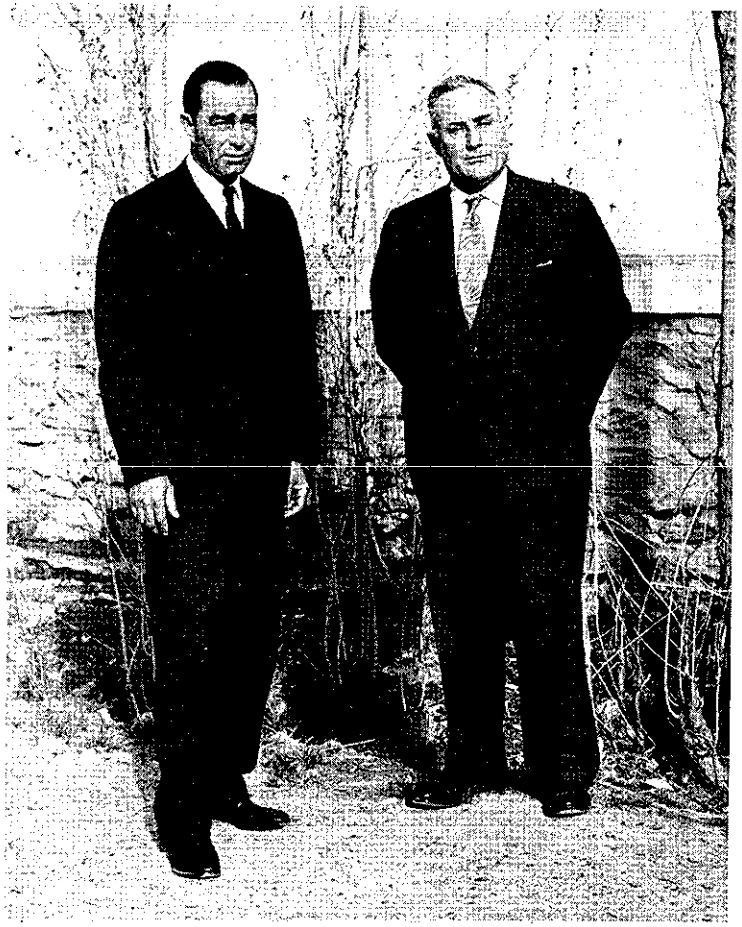
The two Governments first made a technical cooperation agreement in 1951. Under this agreement projects which were carried on by the two countries mainly included activities in the Helmand Valley. Some 20 U.S. technicians were busy assisting the Helmand Valley Authority by 1953.

As our cooperative technical assistance program progressed, it became evident that for Afghanistan to support its development program properly, more and more people had to be trained in technical fields. Therefore, the U.S. technical assistance program agreed to assist the Royal Government of Afghanistan in the development and expansion of those educational facilities necessary to enable Afghans to provide this training within their own country. This took the form of assistance to the Vocational Agriculture School to train agriculturists, the Afghan Institute of Technology to train mechanics and engineers, the Ministry of Agriculture to carry on research in improved agricultural practices, and the Ministry of Education to develop an expanding teacher education program and to assist in preparing materials and teaching English. Now the program has expanded to include assistance in the development of Kabul University, including a Faculty of Agriculture and Engineering which carries on training in these fields through college level.

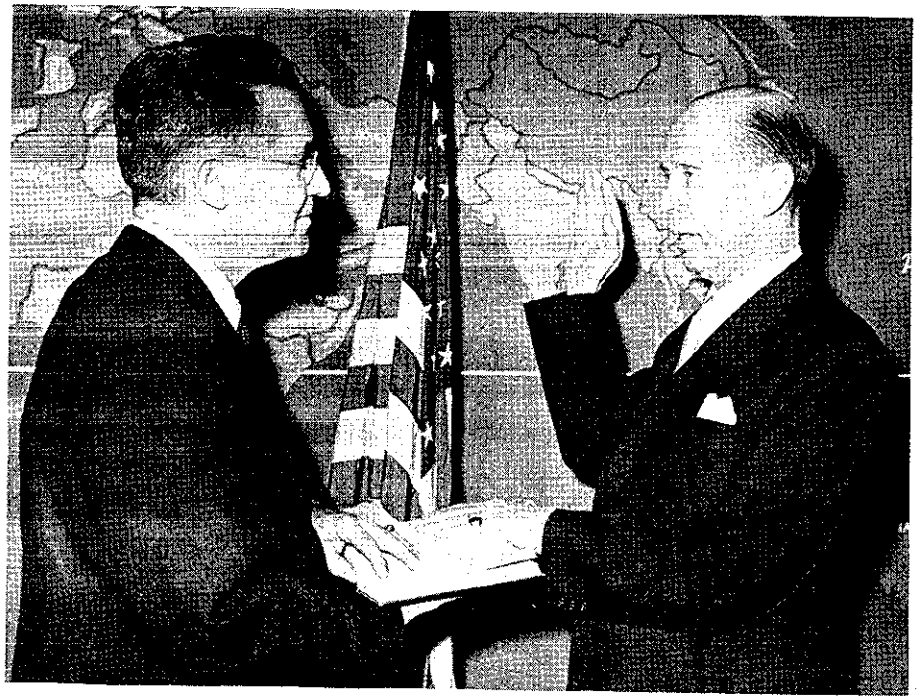
As this program of technical assistance and training in the field of education developed, it was obvious that the desired results could only be obtained after a considerable period of time. Meanwhile Afghanistan found it essential to proceed with its economic development. Development of its transportation system received high priority. The result was a broad but complete air development program to provide necessary air transportation which was followed by a transit project designed to provide Afghanistan with a surface transportation system to and within the country. Other essential projects have also been launched by the two Governments to provide assistance in public administration and other technical fields essential to the country's over-all development plans.

It has been gratifying to have the privilege of participating in this joint endeavor designed to bring about the optimum success of the very important development program in which Afghanistan is now engaged.

Robert M. Snyder
Director



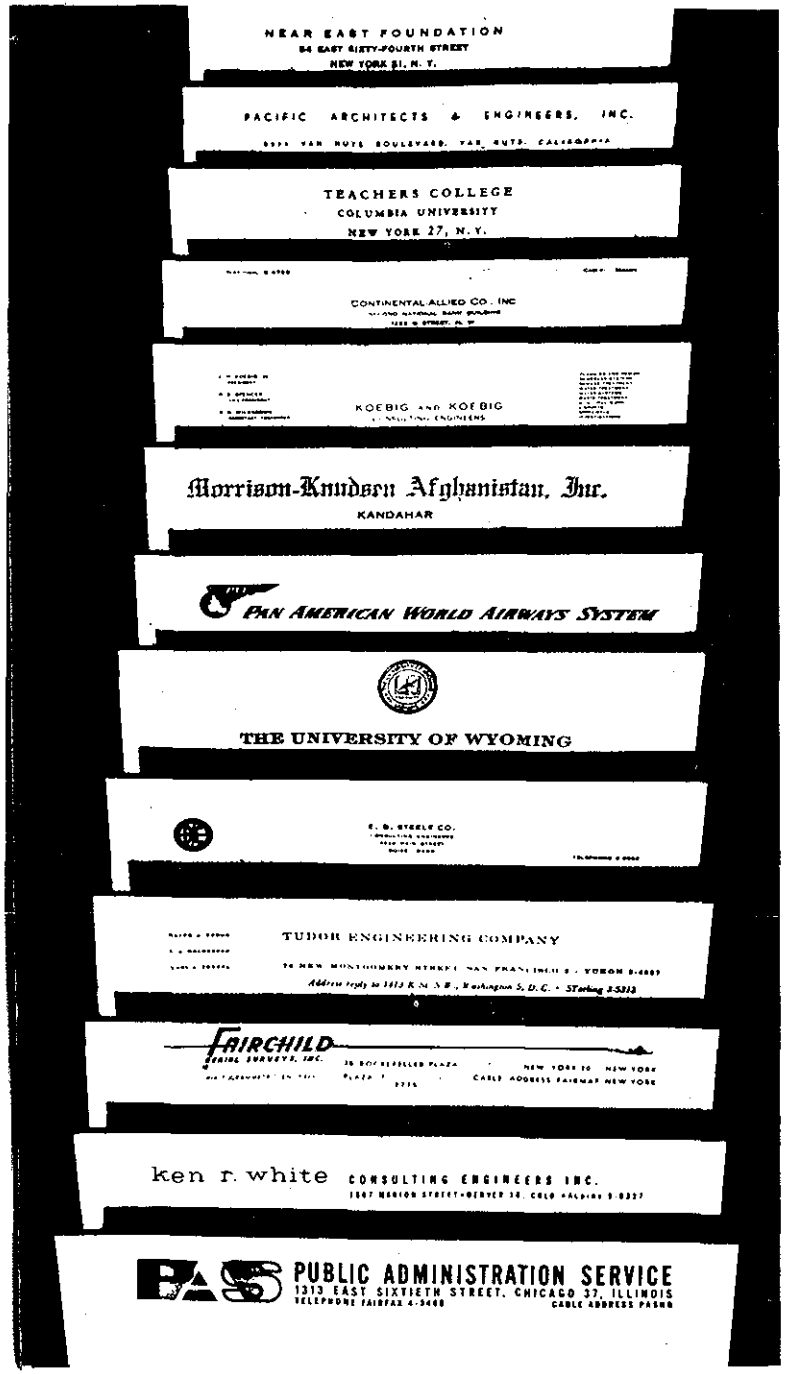
THE UNITED STATES AMBASSADOR to Afghanistan, Mr. Henry A. Byroade (left), is given a tour of USOM/Afghanistan physical facilities by Director Robert M. Snyder, who was head of the Mission from March 1955 to April 1959. The Ambassador arrived in Afghanistan in March 1959.



(Upper left) THE HONORABLE Sheldon T. Mills, who served as Ambassador to Afghanistan from March 1956 to February 1959.

MR. STELLAN C. WOLLMAR
(right), who became Director of the U.S. Operations Mission to Afghanistan in April 1959, is shown receiving the oath of office in Washington, D.C., from Leland Barrows, Regional Director for the Office of Near East and South Asia Operations.

Because of the magnitude of I.C.A. program content in Afghanistan, it has been necessary to implement projects by making contracts with private firms and universities.



THE NEAR EAST FOUNDATION was responsible for work in the rural development field in the Kabul area from 1956 to 1957.

Complete plans for a new five-building Kabul University as well as buildings for Kandahar International Airport are being prepared through PACIFIC ARCHITECTS AND ENGINEERS, INC.

A contract with TEACHERS COLLEGE, COLUMBIA UNIVERSITY, has brought 9 teacher education and 17 English Language teaching specialists to Afghanistan to work with the Ministry of Education.

CONTINENTAL ALLIED COMPANY, INC., has been hired to provide USOM/A with a survey on the feasibility of establishing an industrial district near Kandahar.

Field engineering and economic reconnaissance of the Afghanistan and Pakistan transportation systems was completed in 1957 by consulting engineers, KOEBIG AND KOEBIG.

Construction work on many phases of the Helmand Valley reclamation project and now on the Kandahar International Airport has and is being accomplished through I.C.A. contracts with MORRISON-KNUDSEN AFGHANISTAN, INC.

Twenty-five specialists in airline operation are assisting in Ariana Afghan Airlines development through an I.C.A. contract with PAN AMERICAN AIRWAYS.

The UNIVERSITY OF WYOMING has a contract to provide instructors for the Faculty of Agriculture and Engineering, the Vocational Agriculture School, and the Afghan Institute of Technology, as well as agricultural research specialists.

To help the Ministry of Public Works implement a national road improvement and maintenance program, I.C.A. has a contract with the E.B. STEELE CO. of Idaho.

A report and recommendations on "Development of the Helmand Valley in Afghanistan" prepared by the TUDOR ENGINEERING COMPANY in 1956 is used as a basis for operations in that area.

An aerial survey of Afghanistan is being made for the Royal Government by FAIRCHILD AERIAL SURVEYS, INC.

Part of the Afghan Regional Transit project -- engineering the Kabul-Kandahar-Spin Baldak road -- is being implemented through an agreement with KEN R. WHITE CONSULTING ENGINEERS, INC., of Denver, Colorado.

Public Administration Service of Chicago is advising the Royal Government of Afghanistan on fiscal management systems and principles.

SPECIAL ASSISTANCE
UNITED STATES GRANTS TO AFGHANISTAN
(As of April 1, 1959)

1.	Air Transportation Development		$ 20,863,000
2.	Haj Assistance		195,000
3.	Educational Facilities		3,000,000
4.	Habibia College		100,000
5.	Architectural & Engineering Services		300,000
6.	Aerial Photography & Mapping		2,300,000
7.	Regional Transit		18,993,000
8.	National Roads Improvement and Maintenance		1,175,000
9.	National Agriculture		50,000
10.	Education		55,000
11.	Helmand Valley Development		6,624,000
12.	Technical Support		200,000
13.	Richards Mission		
	a. Civil Police Equipment	$ 336,000	
	b. Roads Maintenance Equipment, Repairshops & Engineers	1,000,000	
	c. Helmand Valley Development	1,450,000	
			2,786,000
14.	Wheat Assistance		
	a. 1954 - Section 550	$ 1,172,000	
	b. 1957 - Wheat	5,228,000	
	Ocean Transport	1,319,000	
	Transit through Pakistan	600,000	
	c. 1958 - Wheat	5,316,000	
	Ocean Transport	766,000	
	d. 1959 - Wheat, estimated	6,000,000	
			20,401,000
		TOTAL	$ *77,042,000*

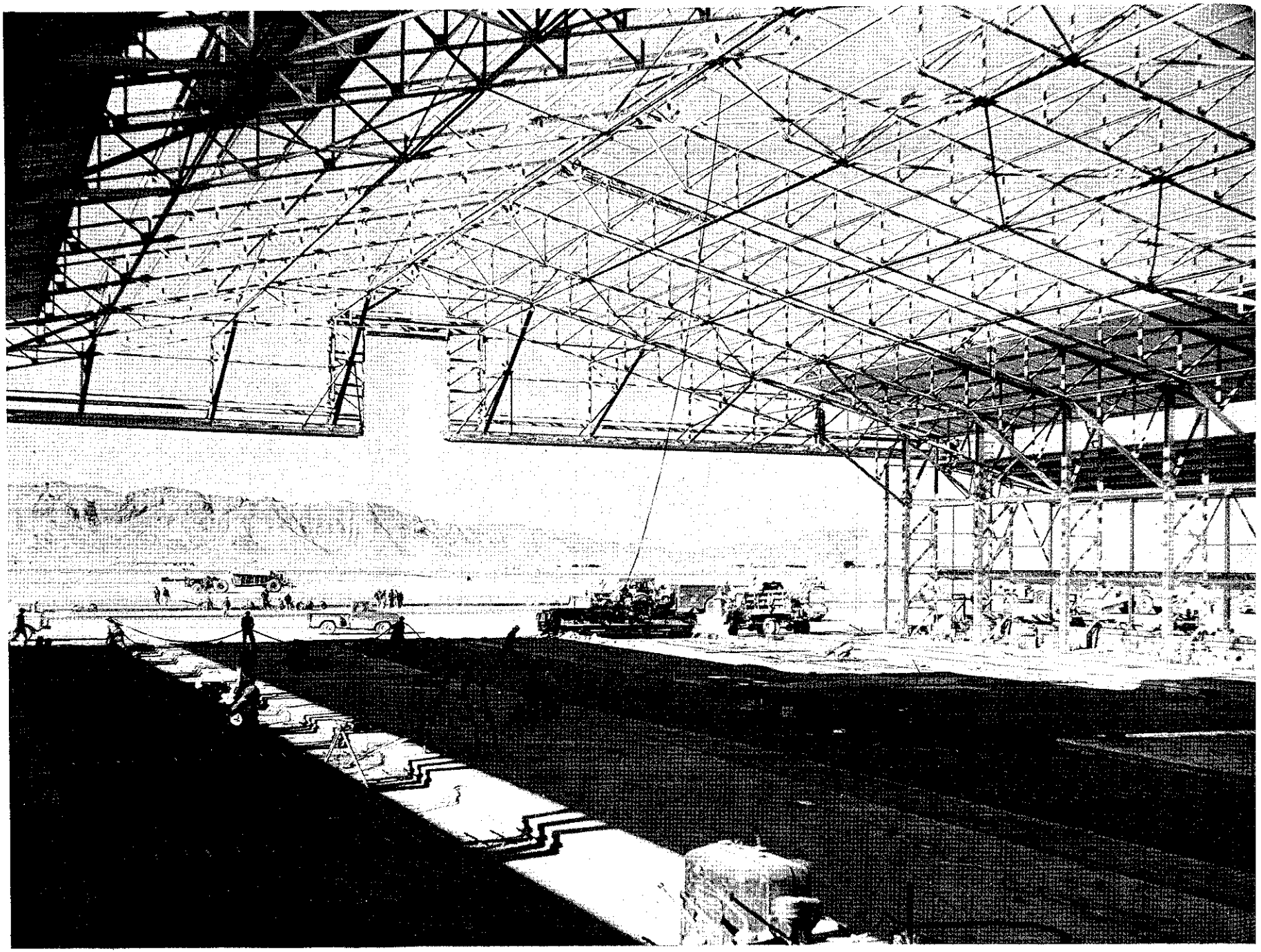
UNITED STATES LOANS TO AFGHANISTAN
(As of April 1, 1959)

1.	Export-Import Bank for Helmand Valley Authority		$ 39,500,000
2.	Air Transportation Development		5,000,000
3.	Richards Mission		
	a. Trucks & Workshops	$ 2,200,000	
	b. Coal Trucks & Workshops	800,000	
	c. Road Maintenance Equipment, Repair Shops & Engineers	1,000,000	
	d. Helmand Valley Development	1,500,000	
			5,500,000
4.	1953 Wheat Credit		1,434,000
5.	Motor Vehicle Transportation (Repair Shop Equipment)		250,000
		TOTAL	$ *51,684,000*

TOTAL UNITED STATES ASSISTANCE TO AFGHANISTAN
(As of April 1, 1959)

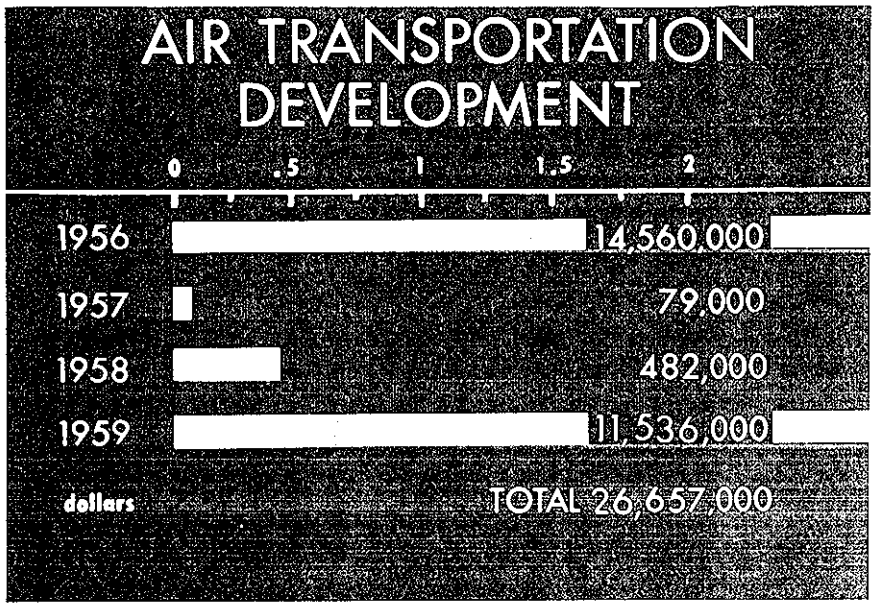
1.	Technical Cooperation Program	$ 16,140,000
2.	Special Assistance Grants	77,042,000
3.	Loans	51,684,000
	TOTAL	$ *144,866,000*

INDUSTRY & TRANSPORTATION



THIS GIANT 50 meter by 75 meter hangar being constructed at the Kandahar International Airport was procured for the Afghan Air Authority through I.C.A. by the Federal Aviation Agency. It will accommodate the largest jet transports now entering international airline service.

SITE IS MADE READY for the storage and heating of asphalt to be used for paving the Kabul-Torkham road.

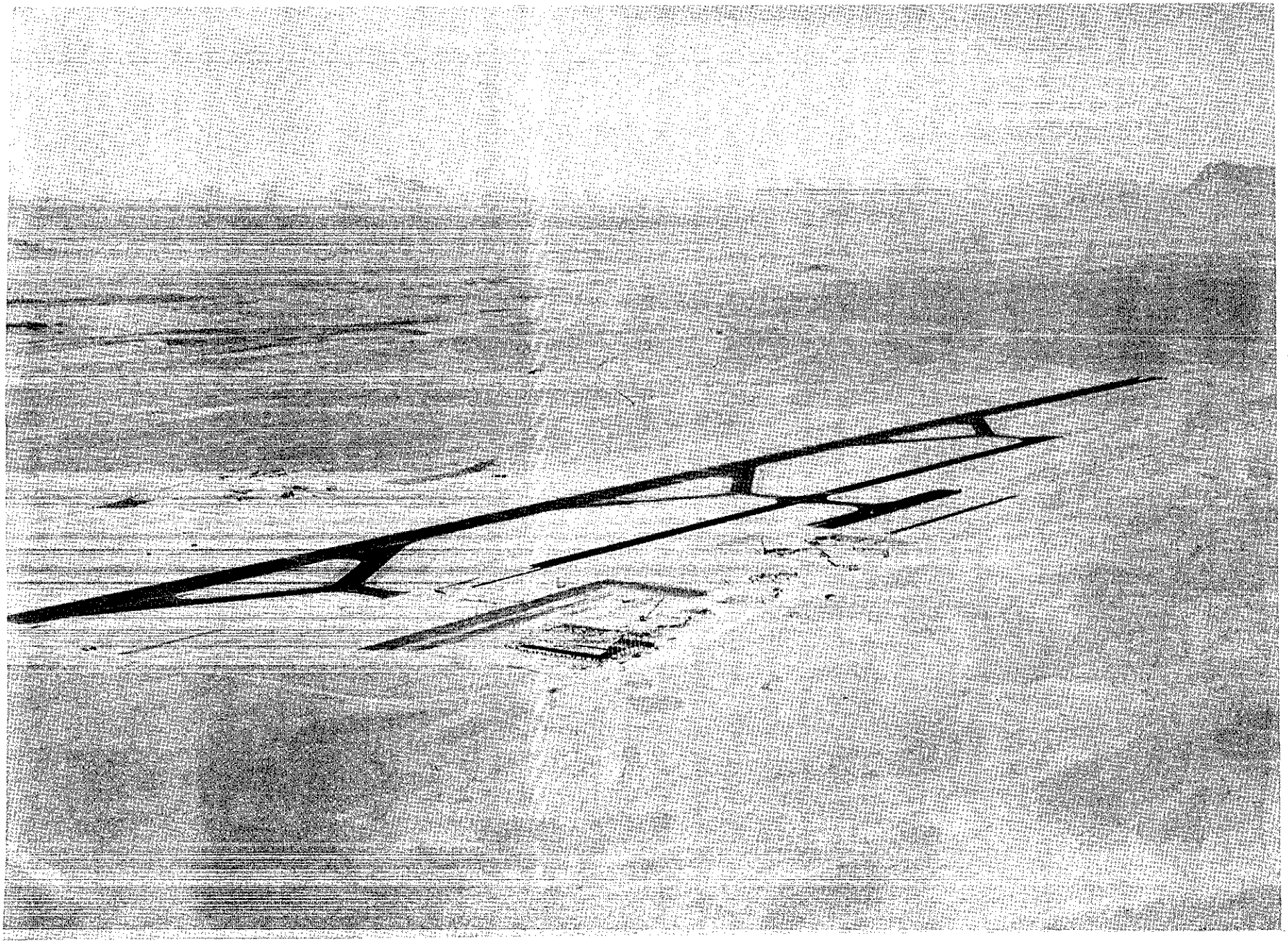


A close look at Afghan topography would convince anyone that it's simpler to travel over it than on it. Another vital part of Afghanistan's development is the Air Transportation program. Its basic objective is to meet a major transportation need by creating a reliable and functioning air service, both within the country and to other countries.

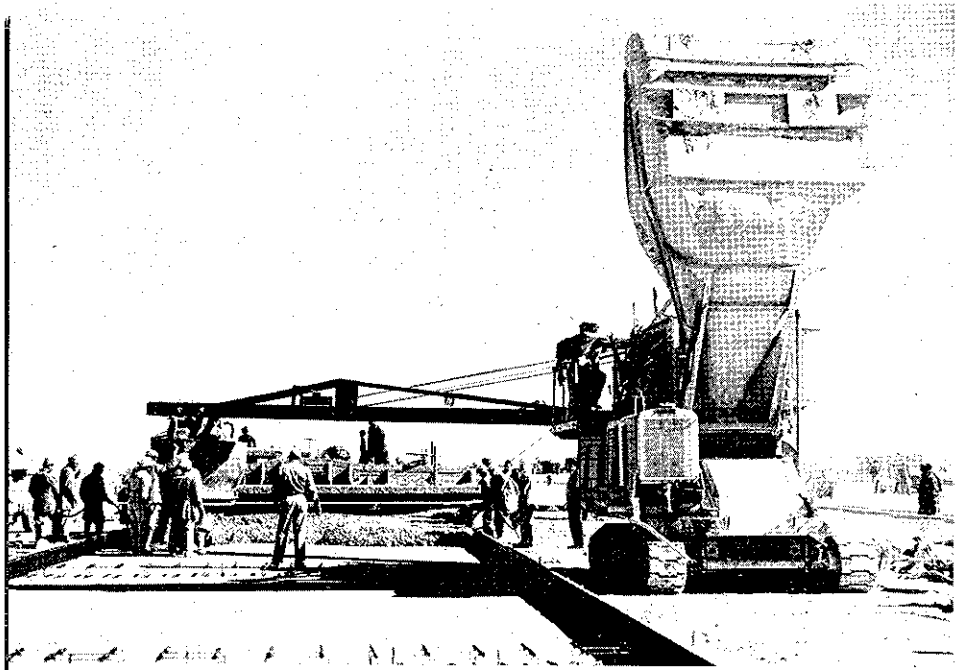
The project has these five specific goals :

(1) To develop an international airport at Kandahar;
(2) To develop an Afghan airline;
(3) To develop Afghan domestic airports;
(4) To develop an Afghan airways system;
(5) To develop organizations and skills in the Afghan Department of Civil Aviation.

HIS EXCELLENCY Sardar Ahmed Ali Suleiman, Minister of Court, reviews an Afghan honor guard on Kandahar International Airport runway. An Ariana Afghan Airlines modernized DC-3 has just landed with 18 high officials of the Royal Government of Afghanistan who were given a tour of I.C.A. development projects in the Kandahar area early this year. This was the first commercial landing made on the new runway.



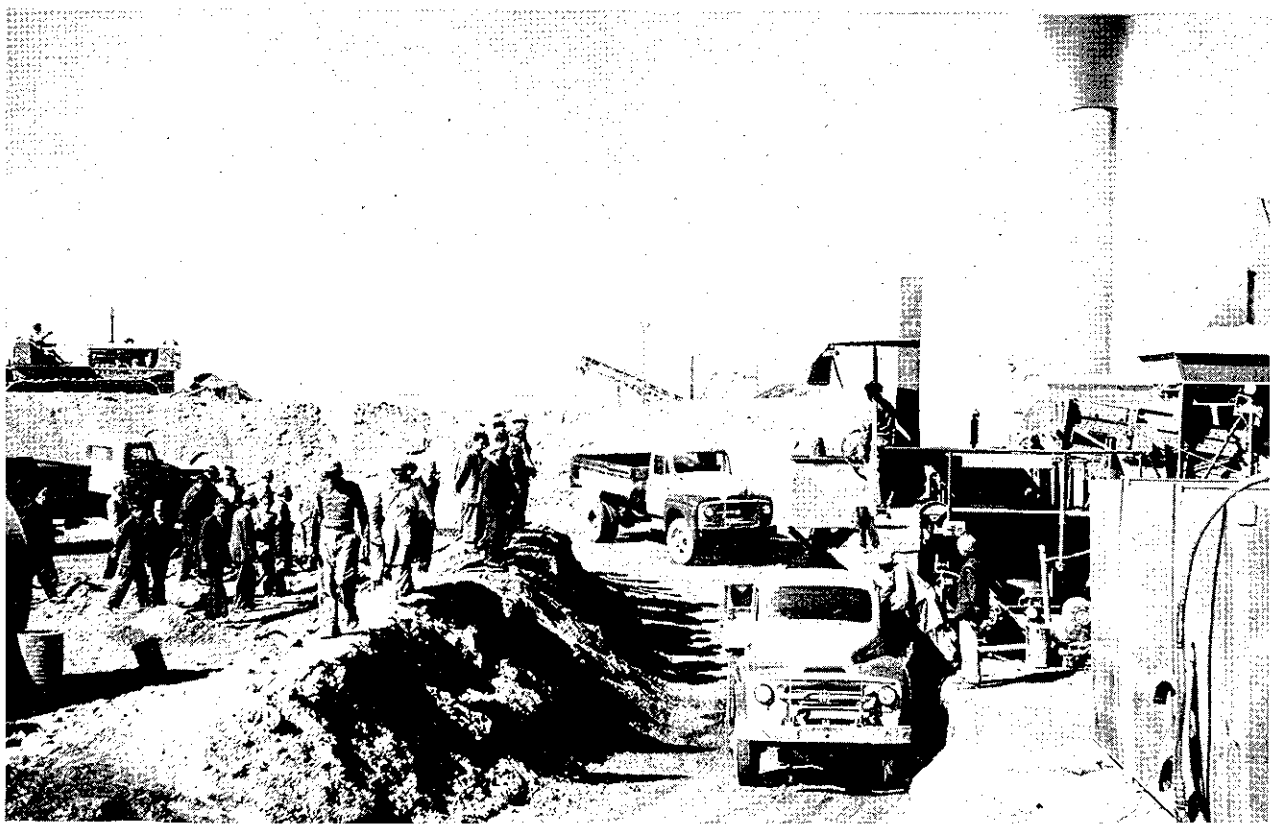
KANDAHAR INTERNATIONAL AIRPORT, about ten miles south of Kandahar, as it appears to a flight captain.



BITUMINOUS CONCRETE pavement overruns, 300 meters long, are laid at each end of the 3200-meter asphalt runway. All materials are carefully tested and analyzed to meet the high specifications required for civil jet airline operations.

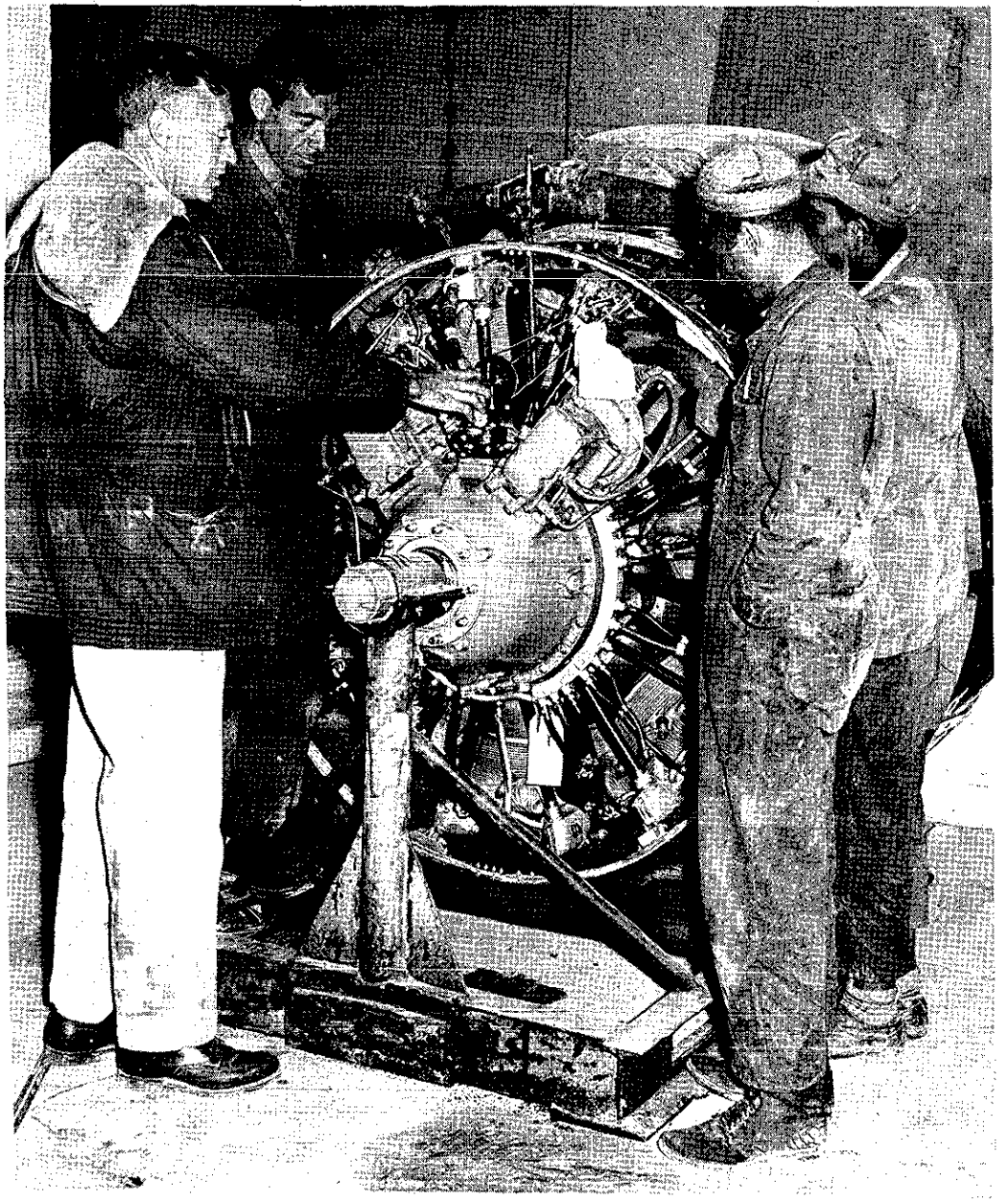
A large part of the 3200-meter runway along with high-speed turn-offs, an inter-connecting taxiway, terminal ramp, and hangar ramp have been completed at the Kandahar International Airport site. Work is being done through a contract with the International Cooperation Administration, the Afghan Air Authority, and Morrison-Knudsen International Constructors, Inc., and will be completed by June 1959. An impressive 75 x 50 meter steel and concrete hangar is also being erected at the desert site.

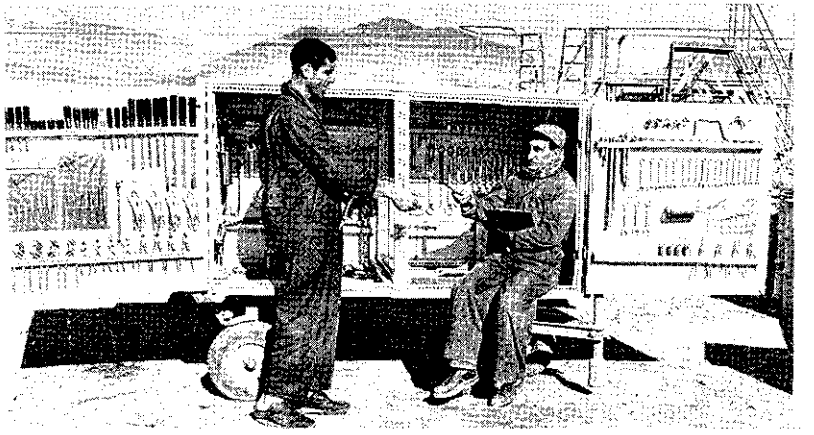
The main terminal and numerous other airport buildings have already been designed by an American engineering firm. Building materials and supplies are being imported, and local materials have been stockpiled so that construction can start as soon as possible.



HIGH GRADE ASPHALT is scientifically produced at the airport site and loaded on awaiting ICA/MKIC/AAA trucks.

AMERICAN P.A.A. TECHNICIAN Frank Farrell guides Afghan mechanics in maintenance of an Ariana Afghan Airlines airplane engine. Such day to day on-the-job training of Ariana personnel is an important part of building a smoothly-operating airline system.





To carry out the second goal -- developing an Afghan airline -- 25 Pan American Airways specialists have been brought to Afghanistan through an I.C.A. contract and are supplying technical assistance in the management and operation of Ariana Airlines.

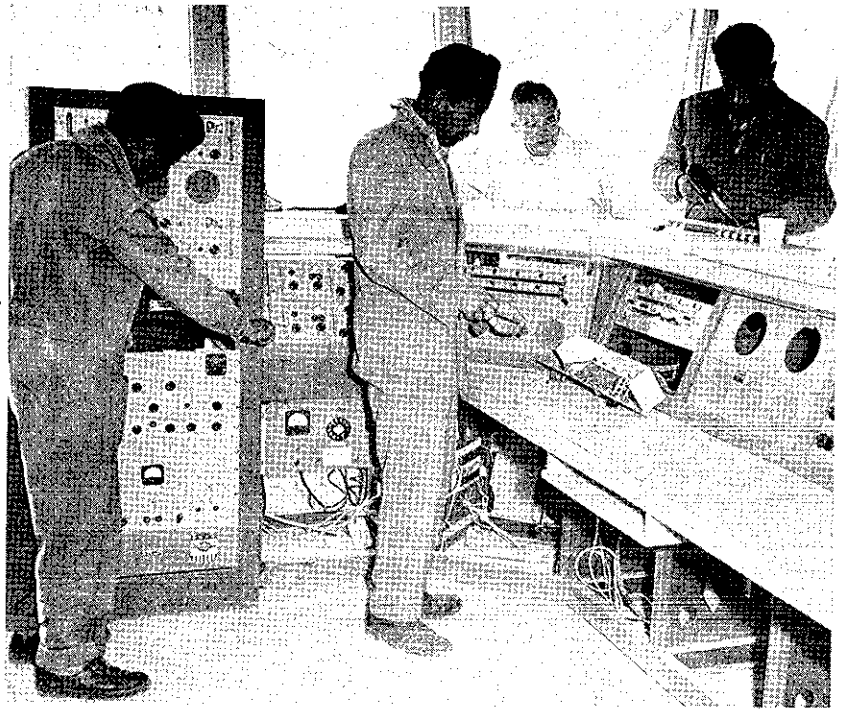
Ariana has acquired three additional aircraft, and all six planes in the present fleet (two DC-4's and four DC-3's) have been modernized and overhauled.

Provision for maintenance facilities, in-service training, and advanced training abroad for pilots, sales, traffic, and management personnel are also included in the Ariana development plan.

Domestic airports are to be built or improved, as required, at Herat, Kunduz, and Jalalabad. Surveys have been made for this construction, and equipment has been procured.

At Old Kandahar Airport, a control tower, maintenance shops, offices, warehouses, improved passenger handling facilities, protective fences, and supporting buildings have already been put into operation.

As part of the plan for developing an airways system, three transmitting masts, a 150-foot non-directional beacon mast, and several receiving antennae have also been installed at Old Kandahar Airport. Similar facilities have been installed at Herat Airport. Approximately $1,250,000 worth of communications and navigation equipment has arrived in Afghanistan, and another $53,500 worth is en route.



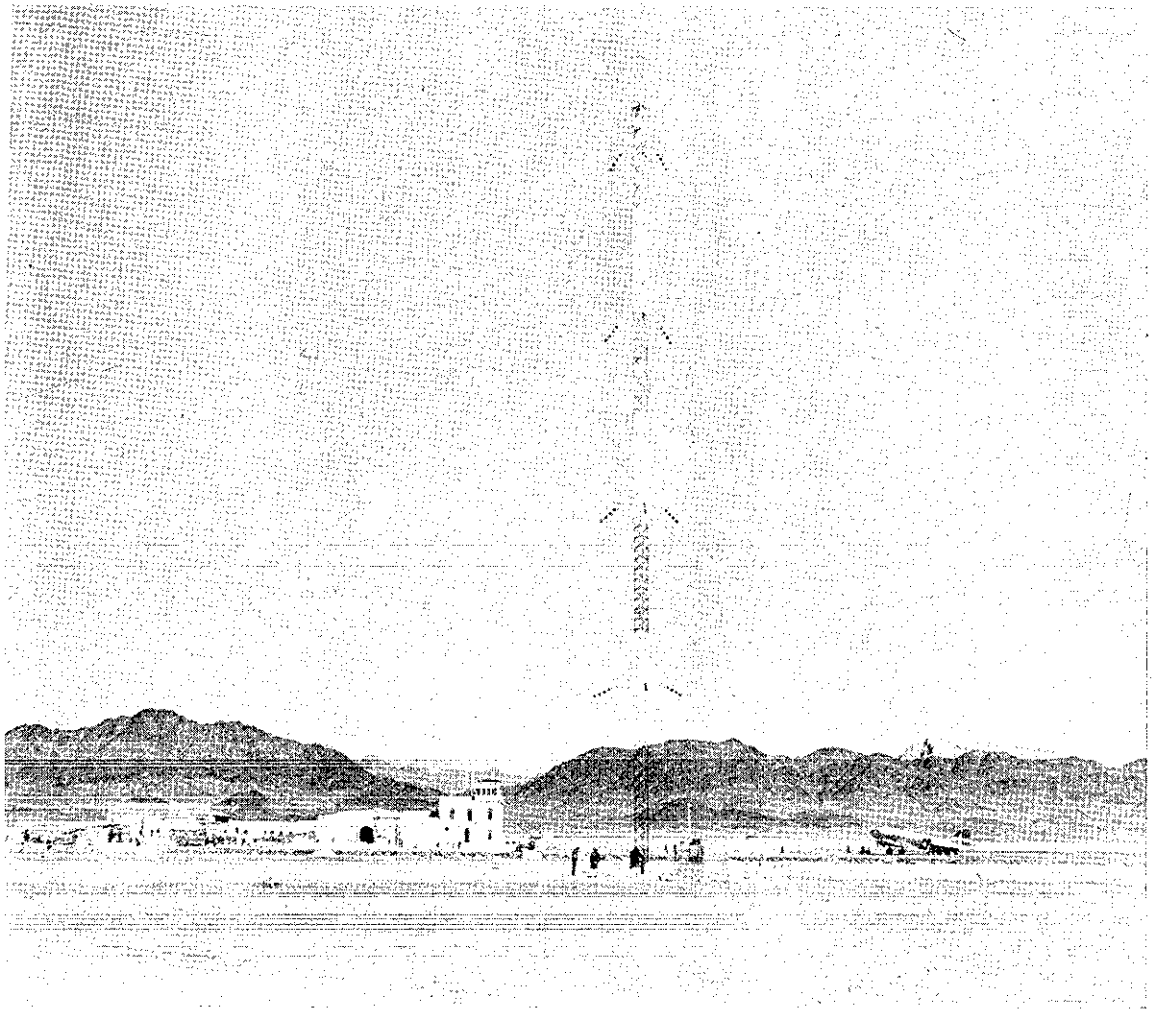
MODERN TRANSMITTING and receiving equipment is installed in the Control Tower at Old Kandahar Airport under the supervision of a Federal Aviation Agency technician, Leo M. Carreras.

THOUSANDS of material samples have been tested in this laboratory during each step of airport construction Here Afghans are checking the strength of a concrete test block.

CLASSROOM instruction on the theory of combustion engines is given by Pan American Technician Richard Frisius.

An agreement between I.C.A. and the U.S. Federal Aviation Agency (formerly C.A.A.) has brought 15 other specialists who are now busily engaged in work with the Afghan Air Authority and Department of Civil Aviation.

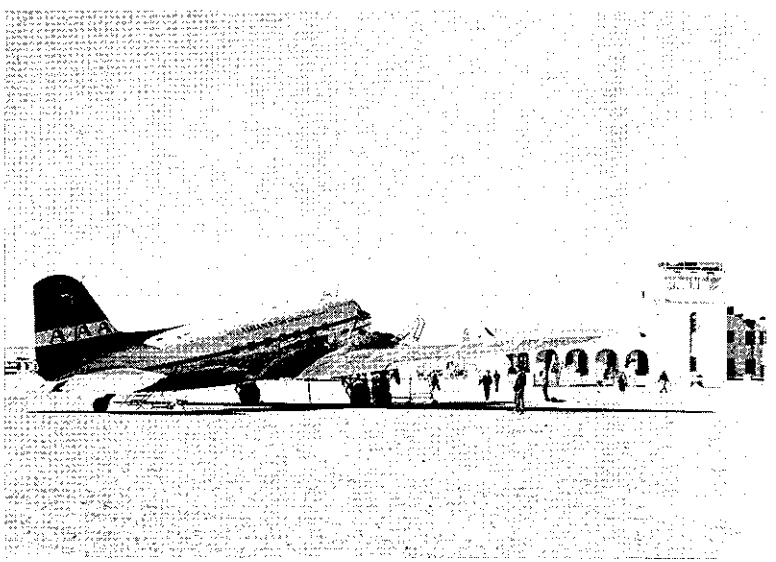
Manuals for training are being written as well as procedures and manuals on air traffic control, air tower control, airport operations, and many other subjects to allow for a controlled and reliable Afghan air operation.



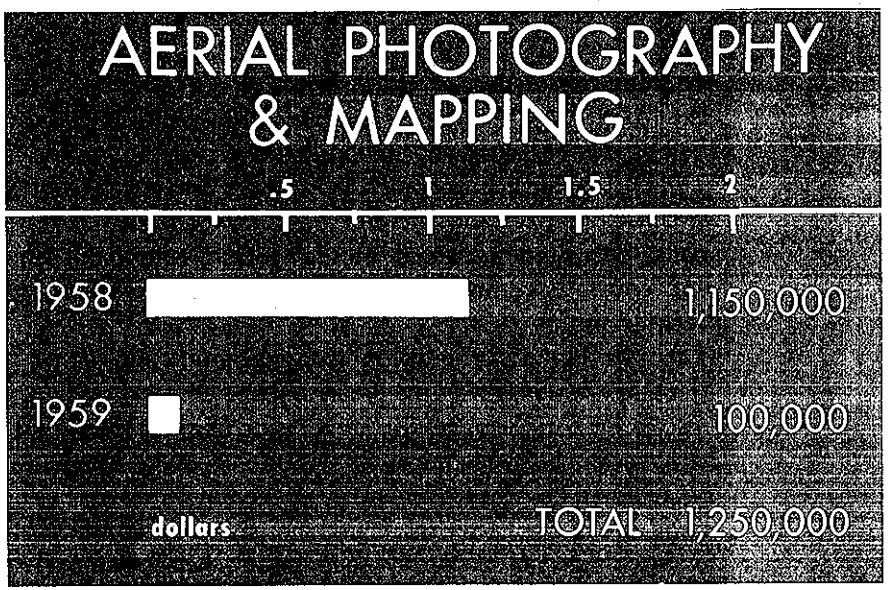
THIS 150-FOOT non-directional tower erected at Old Kandahar Airport is identical to similar masts that will be built for navigational purposes at Herat, Kunduz, and other Afghan airports included in the R.G.A. and I.C.A. air transportation development project.

One important part of the A.A.A.-F.A.A. program is the Afghan Air Authority Civil Aviation School now being built at Kandahar and expected to open in 1959. Thirty-five Filipino technicians have arrived to assist with installation and interim operation and maintenance of communications and navigation equipment, and with classroom and on-the-job training of Afghan technicians.

Through this vital air development agreement between the Governments of Afghanistan and the United States a solid base for progress is now being laid. Adequate air service between airports within Afghanistan and to airports of other countries is becoming more dependable daily. This in itself is a big step toward maintenance of friendly economic relationships between Afghanistan and other countries.



THE NEWLY-INSTALLED Control Tower at Old Kandahar Airport will enable aircraft approaching, landing, and taking off, to have latest traffic, wind, ceiling, visibility, and runway condition reports.



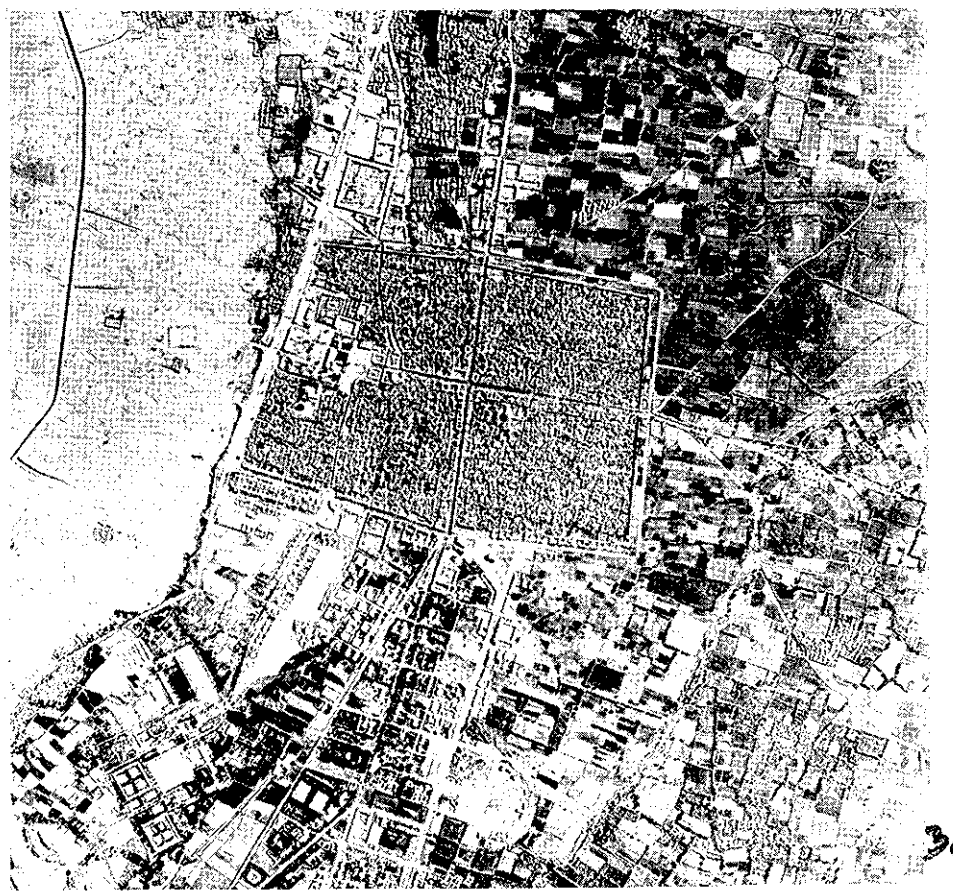
Aerial maps of rugged Afghanistan are an essential base for a proper national resources inventory and will be invaluable to Afghan economic development.

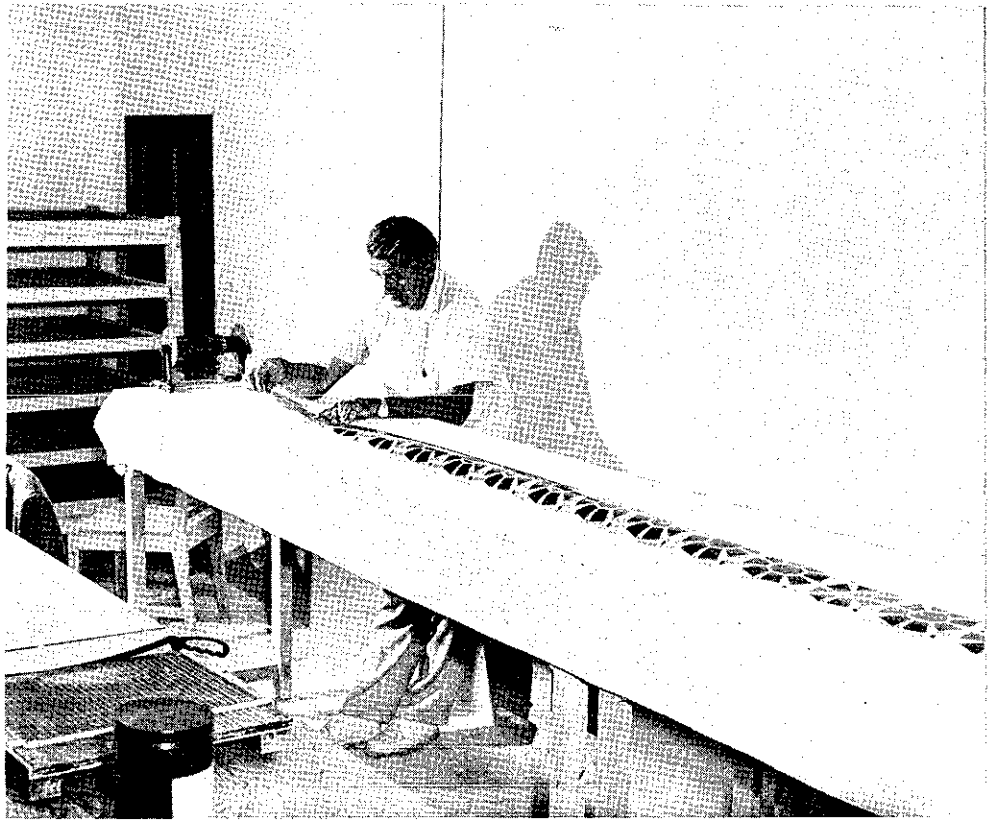
A contract to provide aerial photographic coverage of the greater part of the country was negotiated between the Royal Government of Afghanistan and Fairchild Aerial Surveys, Incorporated, in 1957, with the assistance of I.C.A. Ground control surveys, compilation of photographic mosaics, and topographic contour maps of Afghanistan are also included in the plans.

Aerial photographic operations during September, October, and November of 1957 covered approximately 165,000 square miles of 1:130,000 scale photography with bands of 1:60,000 and 1:30,000 scale photography. Photographic prints of this coverage were delivered to the R.G.A. in February 1958.

Additional coverage at different scales was then requested by the Afghan Government (solid coverage of 137,460 square miles at 1:60,000. and 1:30,000). This aerial photographic flying is scheduled for completion in October 1959.

FAIRCHILD cameraman focuses his special high precision aerial camera on the city of Kandahar. Fairchild, Inc., personnel have found Afghanistan is ideal aerial photography country with clear skies and negligible rainfall. Many of the pictures are taken from altitudes of 32,000 feet.



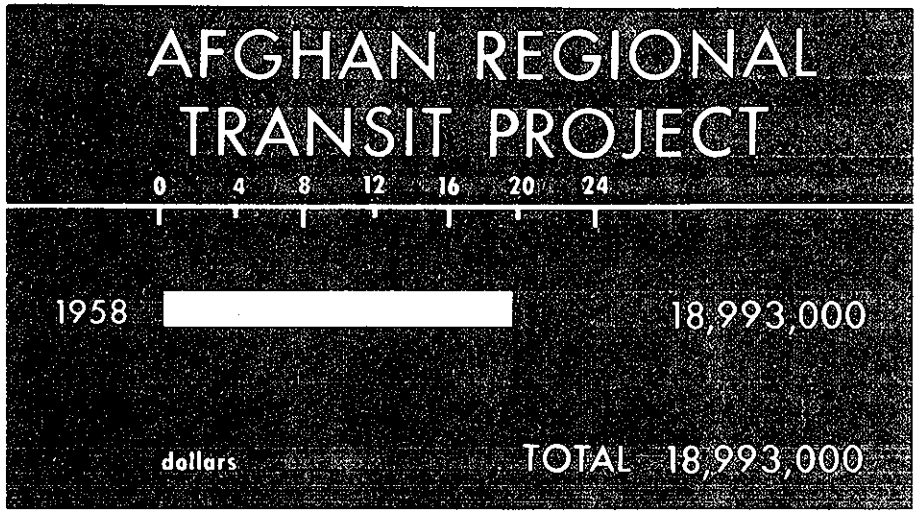


NEGATIVES OF SOME portion of Afghanistan's approximately 270,000 square miles of rugged terrain are viewed in a laboratory in Kandahar. Photographic mosaics and topographic contour maps produced from these will provide an invaluable base for engineering design of irrigation, hydroelectric, flood control, highway, and industrial development projects.

In connection with vertical and horizontal control work, astronomical and barometric control data are completed, Shoran stations have been established, and some of the vertical levels have been completed. Completion of the project -- including photographic maps -- is scheduled for the end of 1962.

Maps produced as a result of this project will facilitate future studies of water, timber, mineral, and agricultural resources as well as transportation and civil aviation.

NEGATIVES OF AERIAL photographs are dried by a technician on the Fairchild Team.



One of Afghanistan's chief obstacles to economic development and increased foreign trade is lack of surface transportation facilities. Travel is difficult. Depreciation of vehicles and goods is high. The nearest ocean outlet to Afghanistan is the Port of Karachi in Pakistan. Port facilities at Karachi, the railways and highways of Pakistan, and the highways of Afghanistan are not sufficiently improved or equipped to accommodate any volume of Afghan foreign trade. This project (and a companion sub-project in Pakistan) is designed to provide or improve these facilities.

The two projects will bring the following changes:

(1) Better facilities in Karachi for handling Afghan imports and exports with a minimum of formality and delay.

(2) Improvement of Pakistan railways to provide faster, cheaper, and safer transportation service for Afghan trade between Karachi and Chaman.

(3) Construction of an extension of the Northwestern Railway of Pakistan from Chaman to a point near Spin Baldak in Afghanistan and the erection of terminal facilities at Spin Baldak.

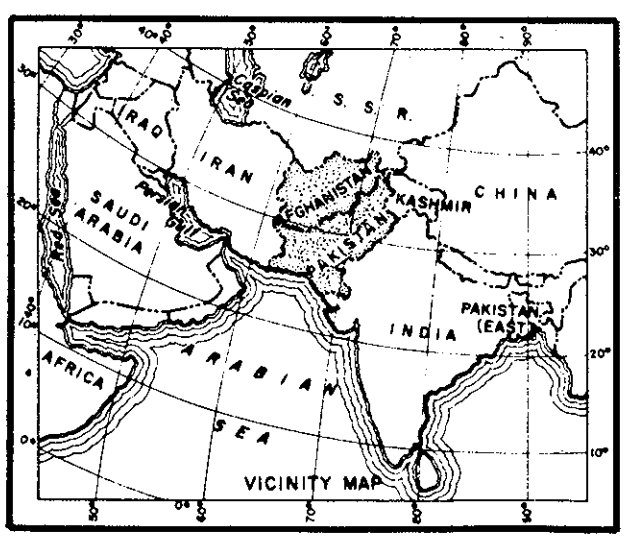
(4) Paving with asphalt the present highway from the Afghan frontier near Chaman to Kandahar, plus a bridge across the Tarnak River.

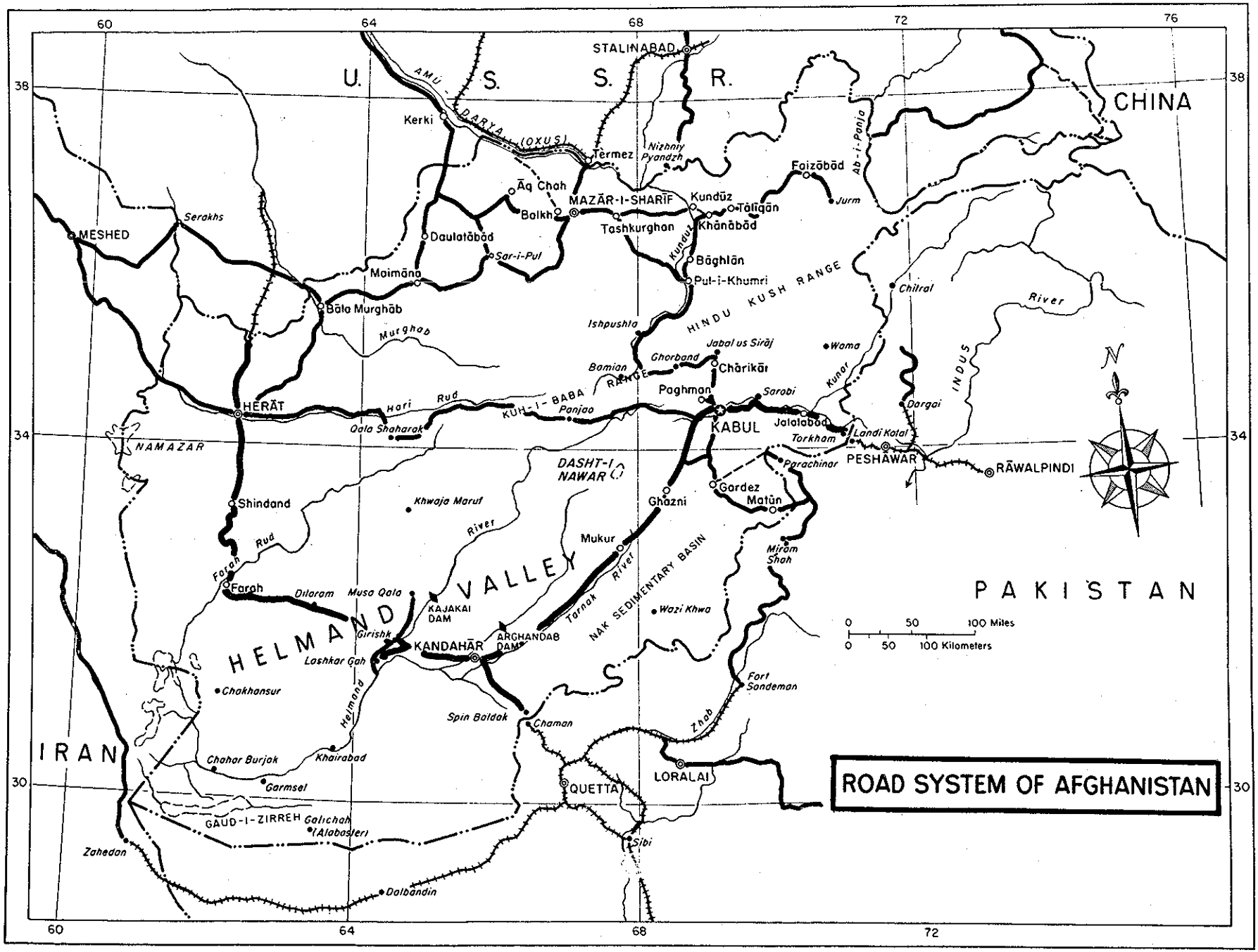
(5) Rebuilding the road from Kandahar to Kabul in accordance with modern engineering design to a width sufficient for two traffic lanes and surfacing with one lane of asphalt pavement.

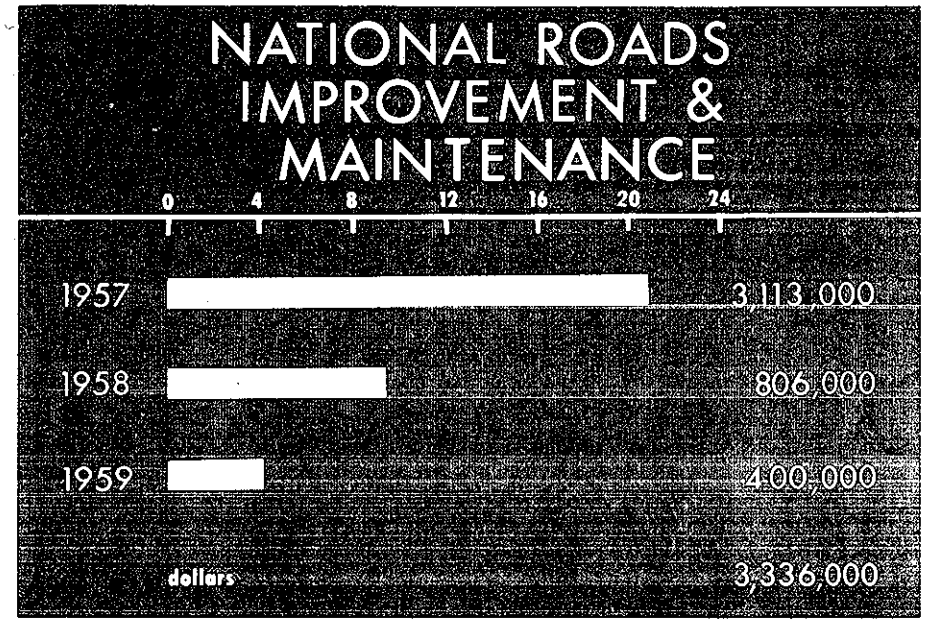
A contract has been made with the Ken R. White Co. of Denver to do engineering of the Kabul-Kandahar-Spin Baldak Road.

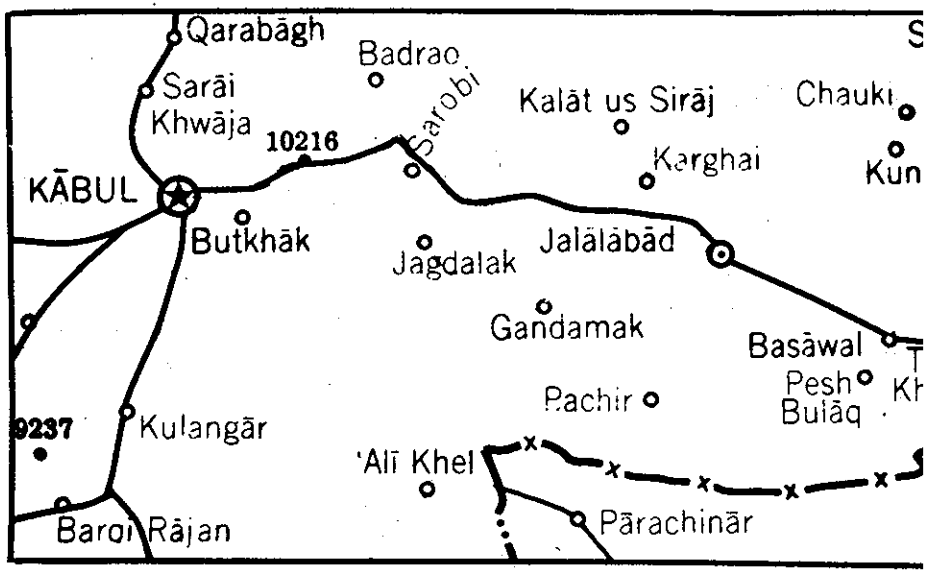
The Afghan Government is making a very substantial contribution to the success of this project by furnishing a qualified project director; by supplying necessary land, camp sites, and building materials; and by contributing afghanis to cover local costs involved in the undertaking.

When completed, this important project will make available convenient, economical, safe, and speedy means of transporting Afghanistan's import and export trade to the nearest major international seaport. It will stimulate the development of regional as well as international trade.




ROAD SYSTEM OF AFGHANISTAN
U. S. S. R.
CHINA
PAKISTAN
IRAN
STALINABAD
AMU - DARYA (OXUS)
Kerki
Termez
Nizhniy Pyandzh
Ab-i-Panja
Faizābād
Jurm
Āq Chah
MAZĀR-I-SHARĪF
Balkh
Kundūz
Tāliqān
Khānābād
Tashkurghan
Kunduz
Bāghlān
Pul-i-Khumri
Daulatābād
Sar-i-Pul
Maimāna
MESHED
Serakhs
Bāla Murghāb
Murghab
HINDU KUSH RANGE
Ishpushta
Chitral
River
Jabal us Sirāj
Wama
Ghorband
Chārikār
Bamian
RANGE
Paghman
Sarobi
Kunar
INDUS
Dargai
HERĀT
Hari Rud
KUH-I-BABA
Panjao
KABUL
Jalalabad
Torkham
Landi Kotal
PESHAWAR
RĀWALPINDI
Parachinar
Qala Shaharak
NAMAZAR
DASHT-I NAWAR
Gardez
Matūn
Ghazni
Shindand
Khwaja Maruf
River
Mukur
Miram Shah
Farah Rud
Farah
Dilaram
Musa Qala
KAJAKAI DAM
HELMAND VALLEY
Tarnak River
NAK SEDIMENTARY BASIN
Wazi Khwa
Girishk
KANDAHĀR
ARGHANDAB DAM
Lashkar Gah
Helmand
Chakhansur
Spin Baldak
Chaman
Fort Sandeman
Zhob
Chahar Burjak
Khairabad
Garmsel
QUETTA
LORALAI
GAUD-I-ZIRREH
Gaichah (Alabaster)
Sibi
Zahedan
Dalbandin
N
0 50 100 Miles
0 50 100 Kilometers
60
64
68
72
76
38
34
30



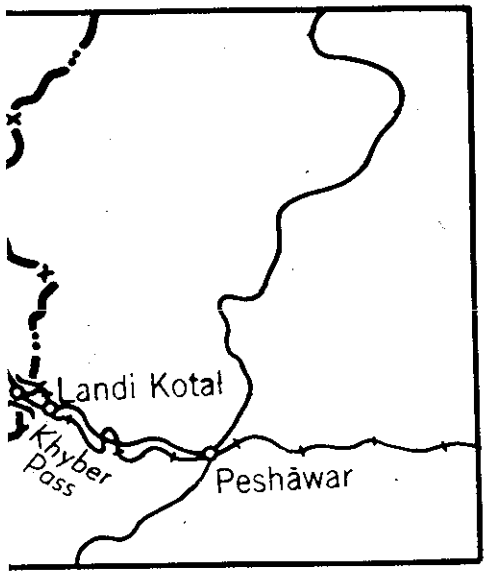


A big step toward meeting the long-range problems of land-locked Afghanistan is this road improvement project. I.C.A. is cooperating with the Royal Afghan Ministry of Public Works in establishing an effective highway department for road improvement and maintenance.

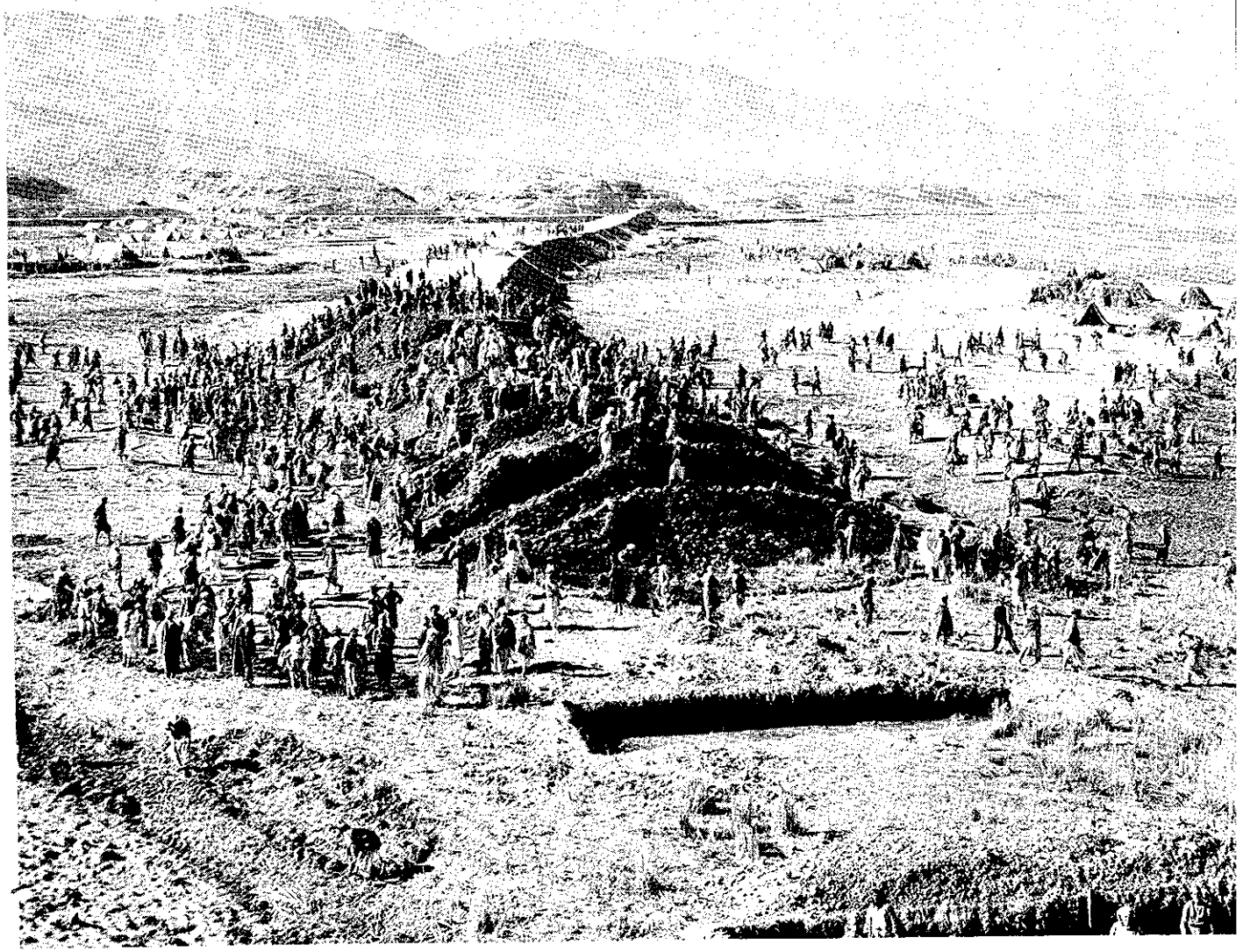
The Afghans have begun full-scale operations on a modern two-lane asphalt surfaced road-way from Kabul to Torkham. Much of the major maintenance and construction equipment, worth $1,670,000, which was specified by the Ministry and ordered through I. C. A., has now arrived.

Completion of this vital link (about 150 miles) will make it possible to travel from Kabul to neighboring Pakistan and return the same day -- a far cry from the rough 12 hours one way required until recently.

The E. B. Steele Company of Idaho is under contract with I. C. A. to help the Ministry implement this project. Seven road engineers and four other specialists are on duty, not only to advise but also to provide valuable in-service training for Ministry personnel. For instance, a technical training course was started near Jalalabad for training highway technicians in reconnaissance, surveying, drafting, material sampling and testing, and bridge design.

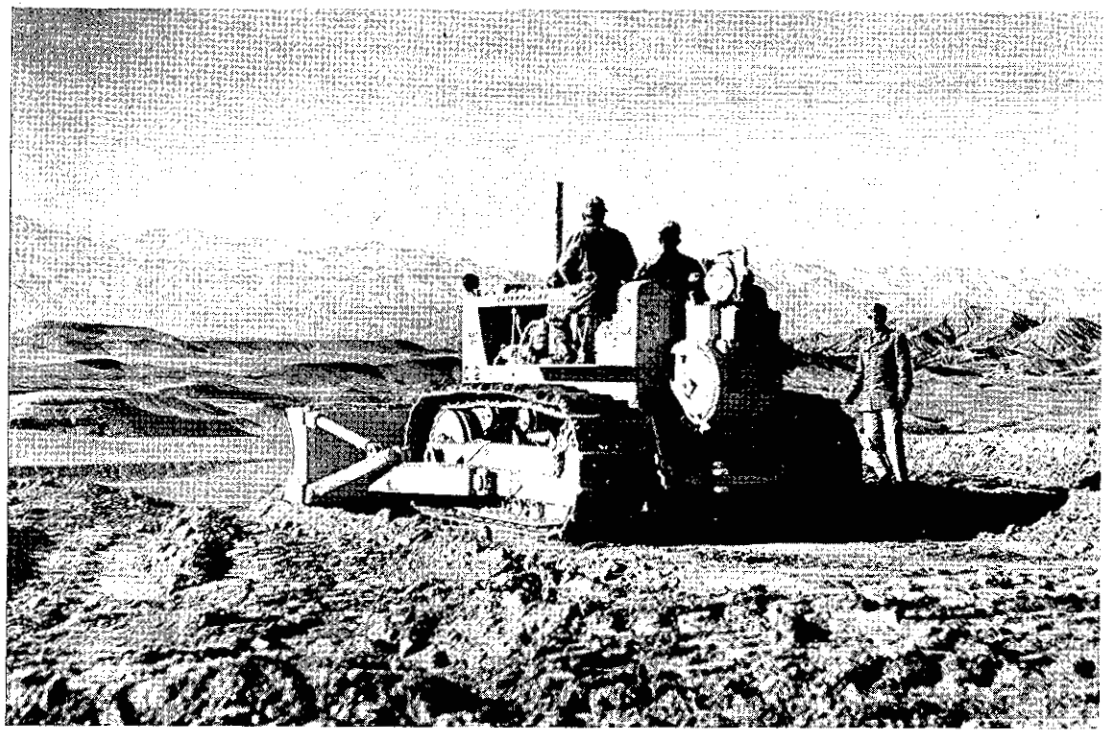


HUNDREDS OF AFGHAN laborers are employed by the Ministry of Public Works to build this highway link between Kabul and the border. This picture shows them laying the road foundation near Jalalabad in preparation for asphalt surfacing.



E.B. STEELE COMPANY equipment specialist, U.T. Collett, gives a lesson on the different parts of a new road grader. This on-the-job training in equipment operation and maintenance of equipment is being conducted on a continuing basis.

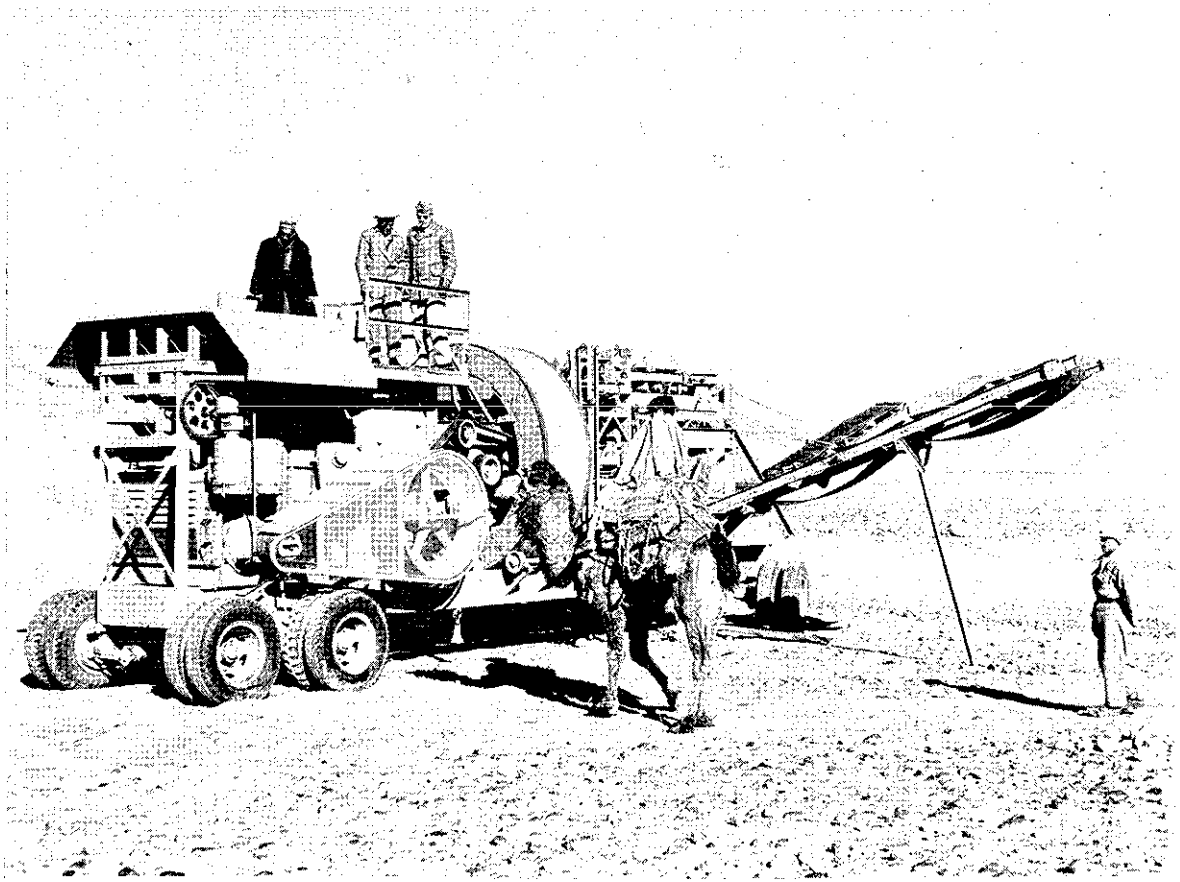
NEW TRUCKS for the project are parked near the road camp site where first gravel crushing operation is taking place 12 miles east of Jalalabad.



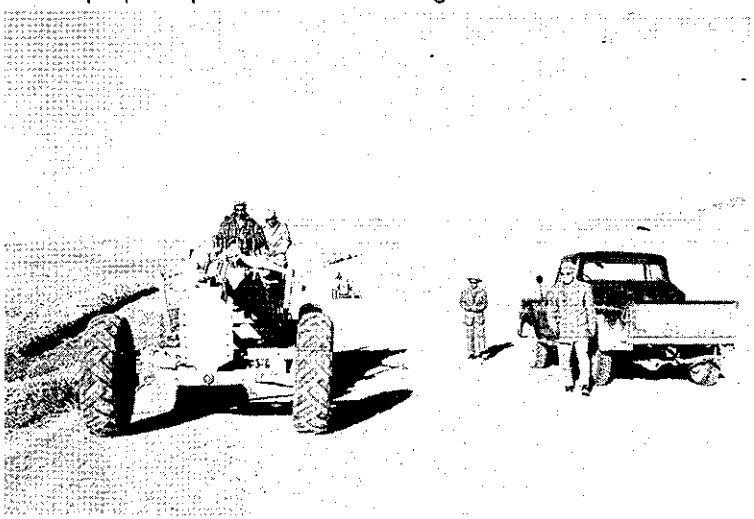
BULLDOZER IS RUN by Afghan operators to prepare site for the asphalt heating and storage plant.

NEW ROAD - BUILDING equipment is carefully maintained by an Afghan crew. Mountains in the background are the famous Hindu Kush.

A NOMAD and his camel are curious about this 50-ton-per-hour rock crushing machine. The machine is used to prepare a 30-day supply of crushed gravel at one construction site before being moved on to work at a new location.

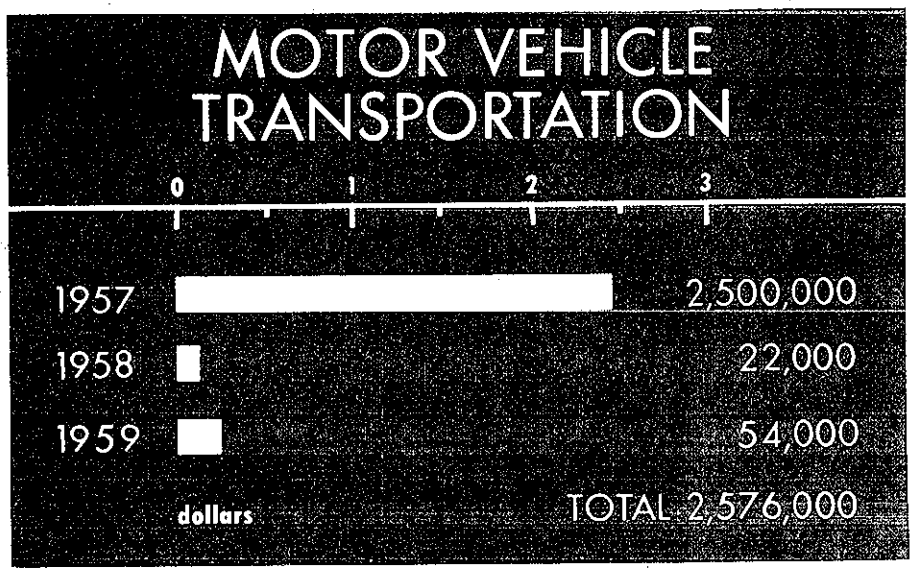


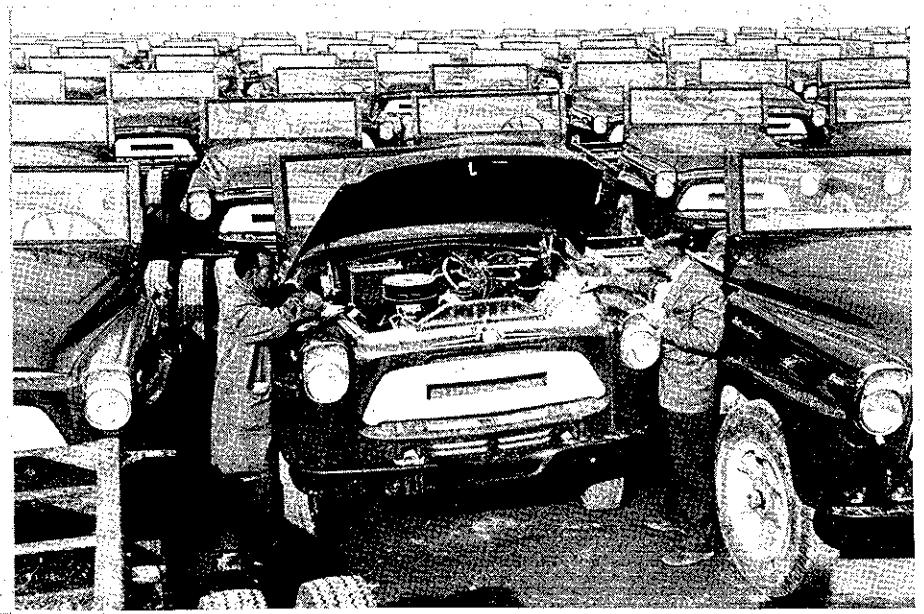
AFGHANS RECEIVE on-the-job training in the proper operation of a road grader.



Continued study by E. B. Steele engineers of the Afghan highway department has resulted in establishment of new divisions for road design, bridge design, materials control, highway maintenance, and asphalt construction.

Up to the present, less than 7000 miles of primary and secondary roads have been carved through Afghanistan's beautiful, but erratic terrain. Many of these are impassable during winter months. Concentrated road-building efforts during the next few years are bound to contribute heavily toward Afghanistan's progress.



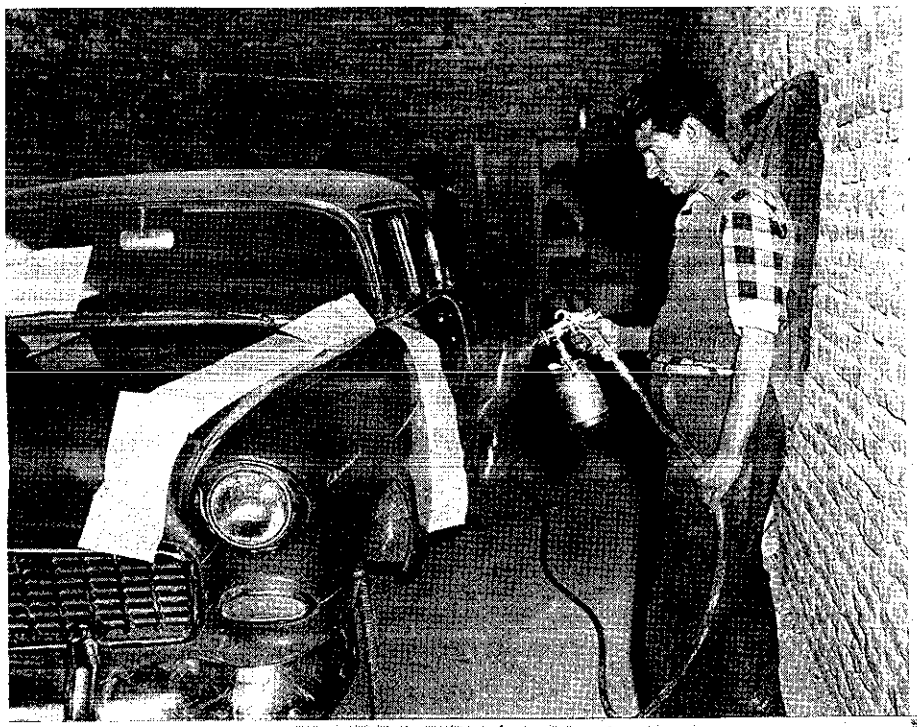


MR. ABDUL RAHMAN, General Director of Vehicle Purchasing for the Royal Government of Afghanistan Monopolies, checks serial numbers of some new trucks with Project Technician Cleo Shook.

(left) THESE ARE PART of the 443 trucks furnished the Royal Government of Afghanistan by I.C.A. agreement under this project.

Some 443 transport trucks and spare parts to bolster Afghanistan's transportation system have been delivered through this agreement with the Royal Government of Afghanistan. The other important facet of this program is building, equipping, and operating motor vehicle maintenance and repair shops in Kabul and Kandahar and a truck assembly shop in Kandahar.

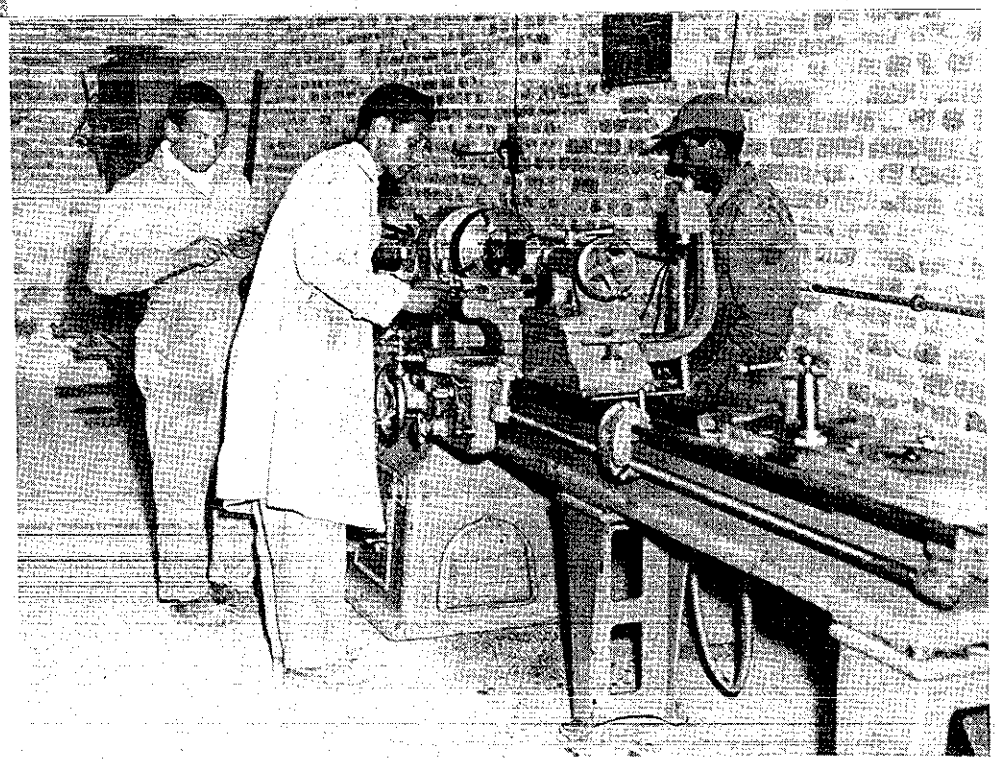
Inadequate maintenance and rough roads plague Afghanistan with extremely high per-ton transportation costs. With better maintenance, it is anticipated that truck life may be increased by at least one-third. Also, with a truck assembly plant in Kandahar, it will be possible to reduce over-all truck costs by as much as ten-per-cent.



INSTRUCTOR in body and fender repair demonstrates spray gun technique at Zenda-ba-Non Workshop, Kabul.

AFGHAN STUDENT in the in-service training program at Kabul workshop uses modern high pressure greasing equipment on customer's vehicle.

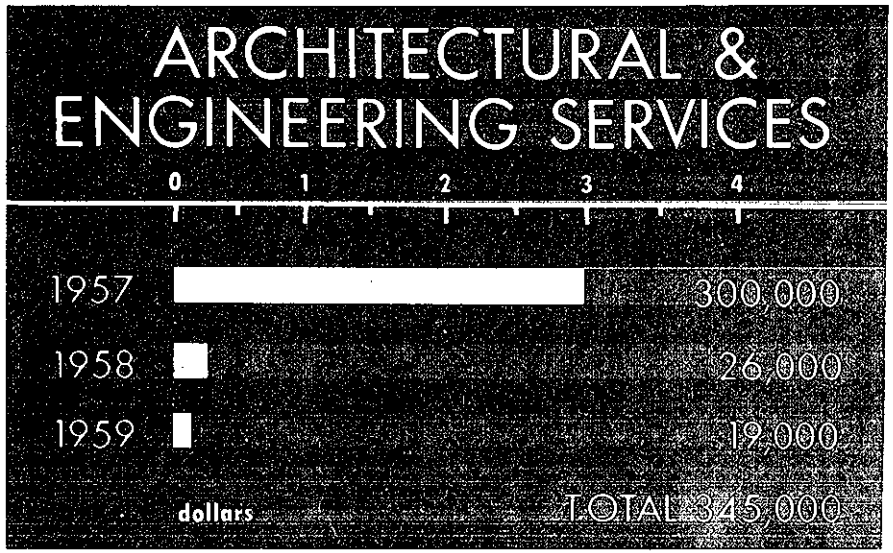
AFGHAN MACHINE SHOP instructor demonstrates simple lathe setup to two students in Machine Shop, Zenda-ba-Non Workshop.

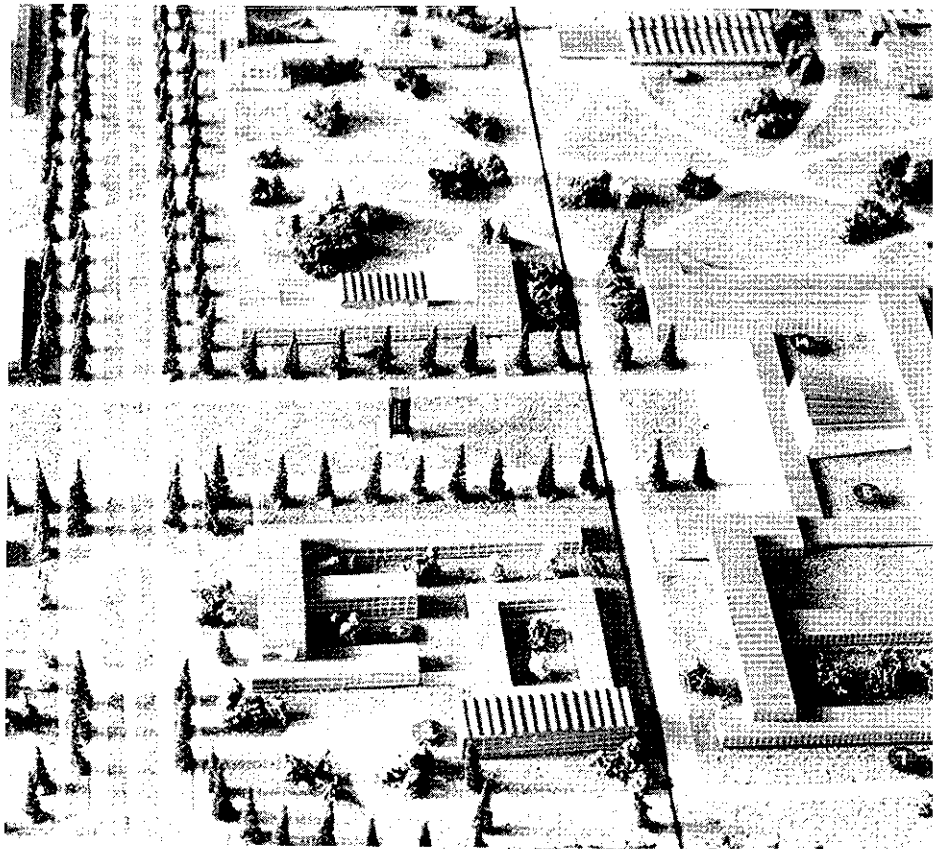


Arrangements were made by the R.G.A. to use the Afghan Motor Service as the cooperating agency for the Kabul workshop and the Government Monopolies in Kandahar. Workshop construction is now in process in both cities and is expected to be completed late this year.

An in-service training program at the Kabul workshop for approximately 25 trainees was begun last May. Training abroad for other Afghan shop personnel is planned for this year.

I.C.A. is providing a Project Technician to carry out these goals. In addition, a specialist in truck transportation organization and management will be furnished through the I.C.A. contract with the Public Administration Service.





THIS MODEL of Kabul University was prepared by Pacific Architects and Engineers under contract with I.C.A. and displayed at the annual fall Jeshyn exhibition held in Kabul.

Architectural and engineering services are required for the successful completion of several of the present major Afghan-United States cooperative projects.

It has been necessary to provide such services in the Educational Facilities project, for instance. Through the Architectural and Engineering Services project, plans and specifications for a one-campus Kabul University are being provided by Pacific Architects and Engineers, of California, under contract with I.C.A. (See page 68).

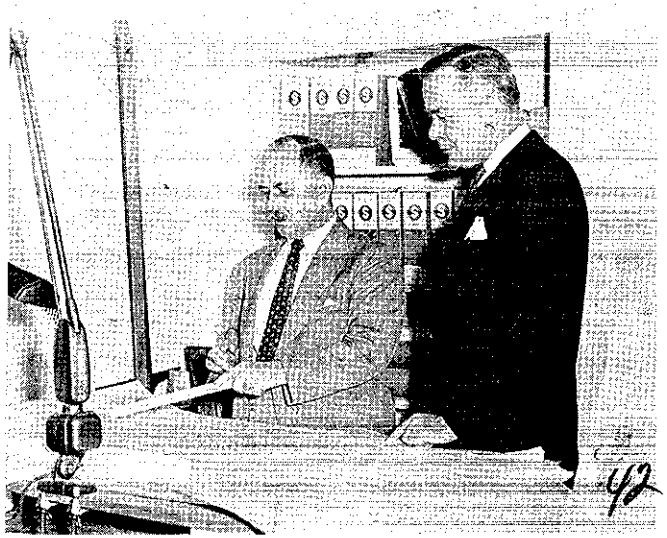
Architectural aid is also being given for related educational facilities, i.e., Habibia, the Afghan Institute of Technology, and the Vocational Agriculture School. I.C.A. provides a Project Technician for advisory architectural services needed in other projects, such as the Lashkar Gah Public Health Center and Motor Vehicle Workshops in Kabul and Kandahar.

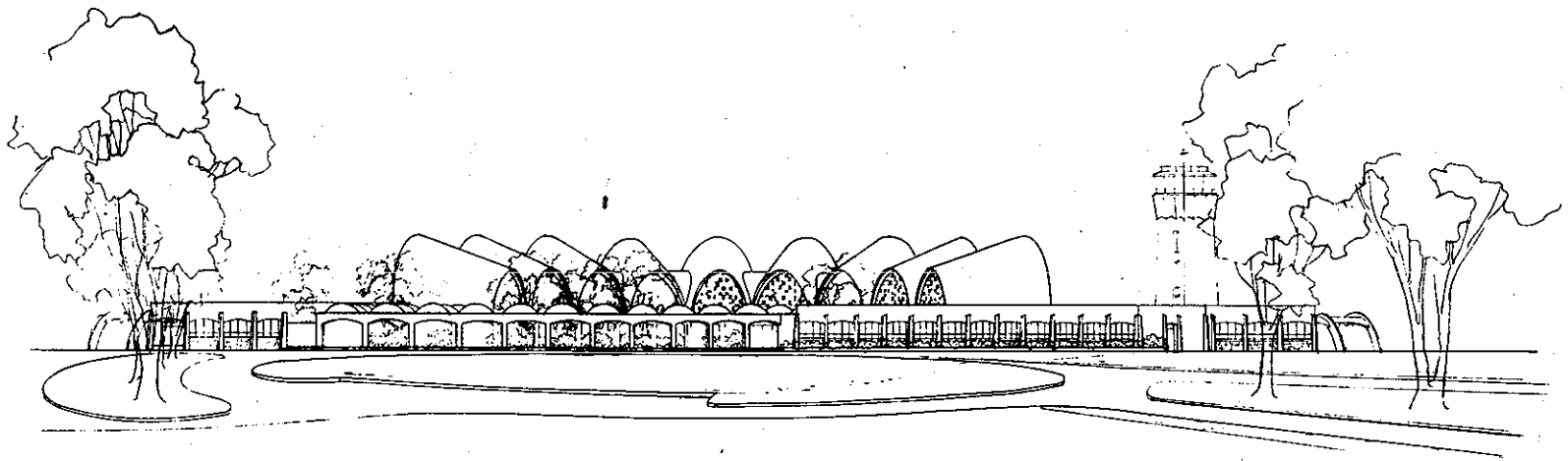
Plans, specifications and estimates have been completed for the Motor Vehicle Workshops and Assembly buildings at Kabul and Kandahar. (See page 40). Buildings for both projects are under construction and being supervised by the architectural advisor.

Preliminary designs and plans for the Public Health Hospital-Clinic at Lashkar Gah were made by the Project Technician and completed by the H.V.A. architect and Pacific Architects and Engineers. This building is being constructed and is about 50-per-cent completed.

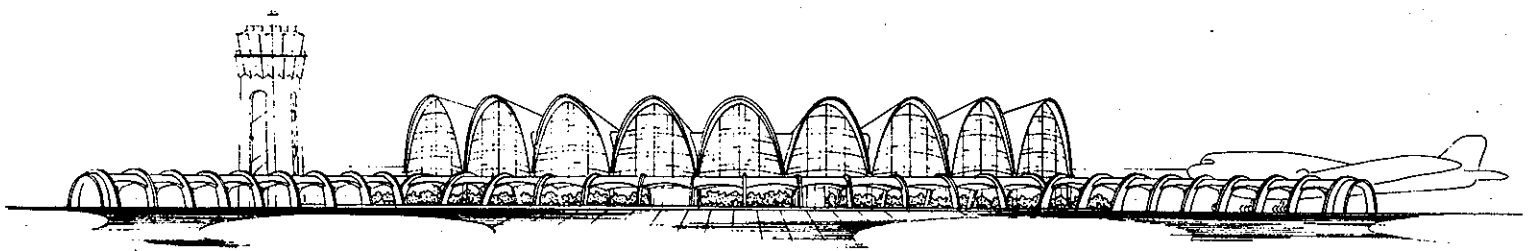
Since this project offers such unusual opportunities for in-service training, the Ministry of Public Works has assigned two of its employees to work with the Project Technician.

PROJECT ARCHITECT James Bell shows plans for Kabul University to I.C.A. Deputy Director, Harry C. Thomas.





VIEW FROM APPROACH ROAD



VIEW FROM AIRFIELD APRON

PACIFIC ARCHITECTS & ENGINEERS, INC.
1625 CONNECTICUT AVENUE, NORTHWEST
WASHINGTON 9, D.C.

DRAWN BY AFK
TRACED BY AFK
CHECKED BY AFK

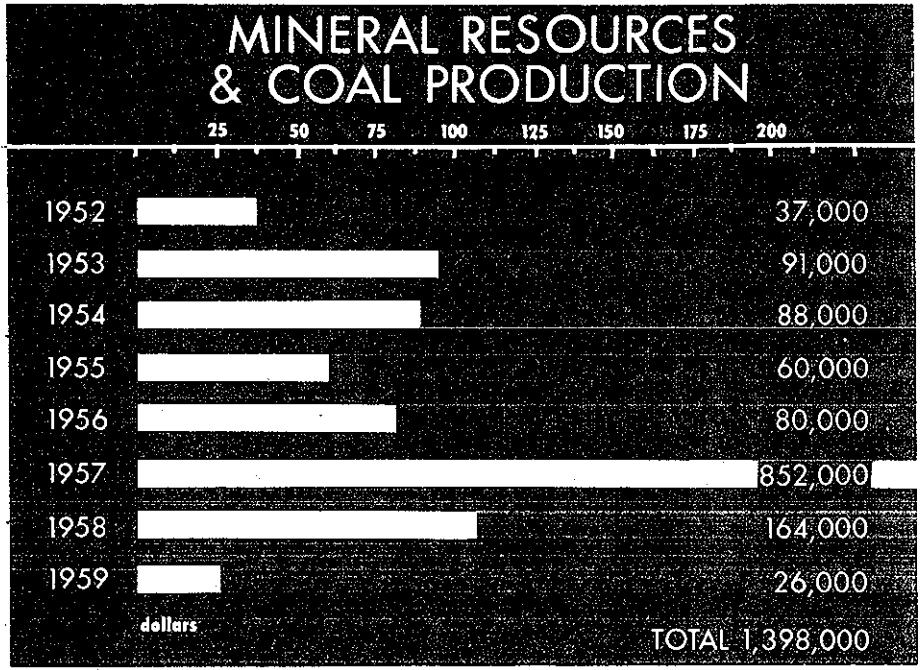
PRELIMINARY DRAWING

KANDAHAR INTERNATIONAL AIRPORT

TERMINAL BLDG.
ELEVATIONS

SCALE 1" = 50'
DRAWING NUMBER A-2
SHEET 11 OF 23

DESIGN for Terminal Building at Kandahar International Airport. When completed, it will be one of the most unique and up-to-date terminals in the world.



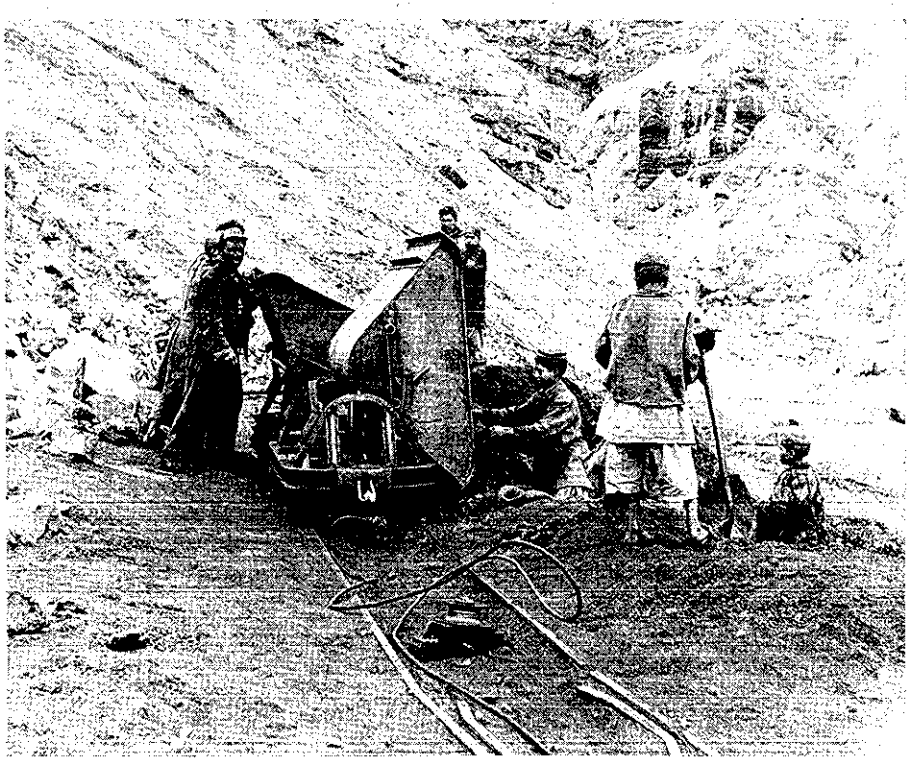
Afghanistan desperately needs low cost fuel for manufacturing and other purposes. Many special problems with respect to coal production and mineral exploration exist. For these reasons I.C.A. is providing a U.S. Bureau of Mines mining engineer to advise the Afghan Ministry of Mines and Industries.

Coal production at Kar Kar and Ishpushta mines (central Afghanistan) already has been increased as a result of project activities. These include use of imported equipment and supplies and the construction of an eight-mile-long high tension power line from Pul-i-Khumri to Kar Kar.

Last year 104 trucks for hauling coal were delivered to the Ministry through $760,000 in funds provided by I.C.A. Shop equipment valued at $40,000 to maintain the trucks was also provided.

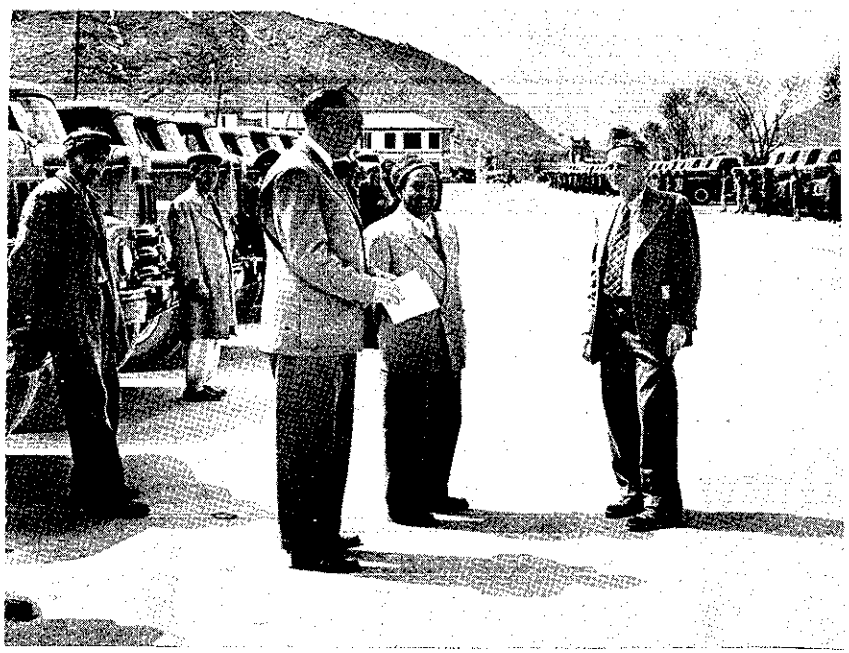
Draft legislation of mining and petroleum laws, prepared by two specialists from the U.S. Geological Survey, is being considered by the Royal Government of Afghanistan. Through this mineral project, which started five years ago, five participants have received training abroad and returned to Afghanistan; a total of seven others are now studying in the United States, Lebanon and Iraq.

Extensive exploration and investigative work is planned this year in the Darra-Suf and Herat coal fields. The Ministry hopes to develop an underground mine in the Herat area that will eventually produce 4,000 tons of coal annually. Other minerals discovered thus far in Afghanistan are beryl, chrome, talc, and slate, all of which involve special mining and development problems.

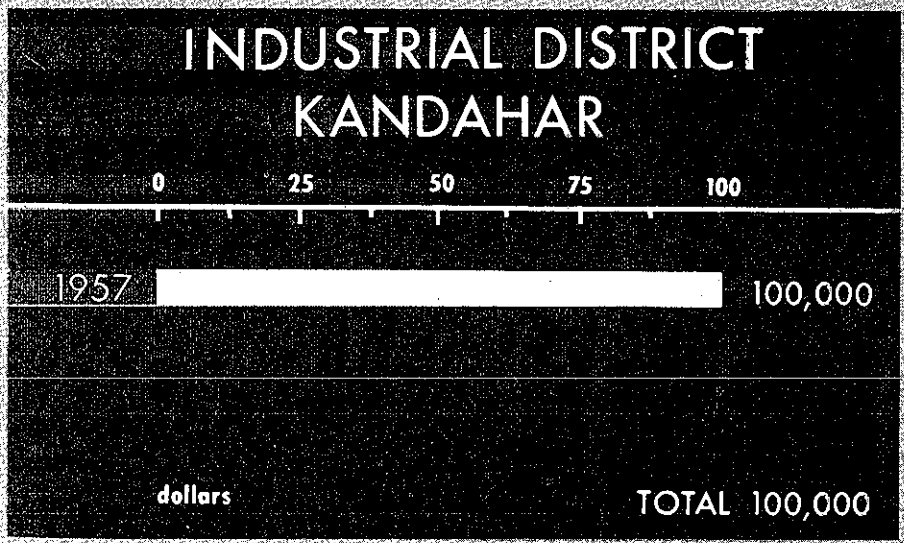


AFGHAN miners
are unloading a mine car of coal at
Kar Kar.

THE 104 coal trucks provided through I. C. A. are inspected by officials of the Ministry of Mines and Industries.

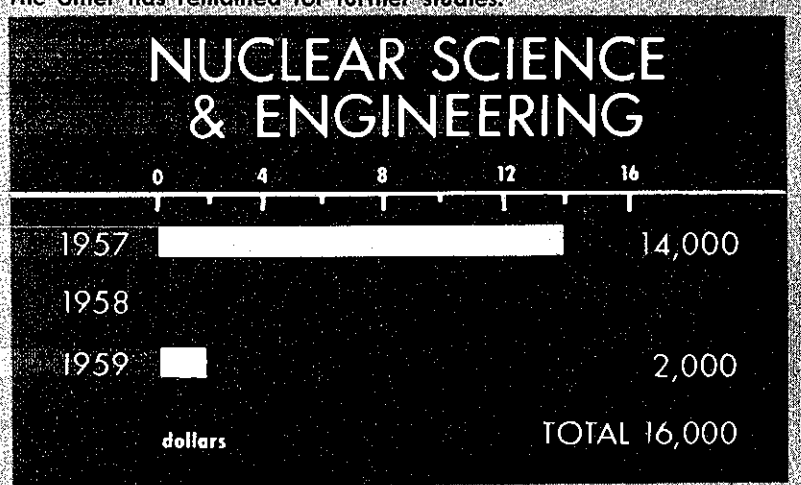


PLANS for adequate maintenance of the coal trucks are made by (l. to r.) H. A. Swanson, Project Advisor; Mohammed Mussa, Technical Director, Transportation Department, Ministry of Mines and Industries; and Robert T. Davis, Project Technician.

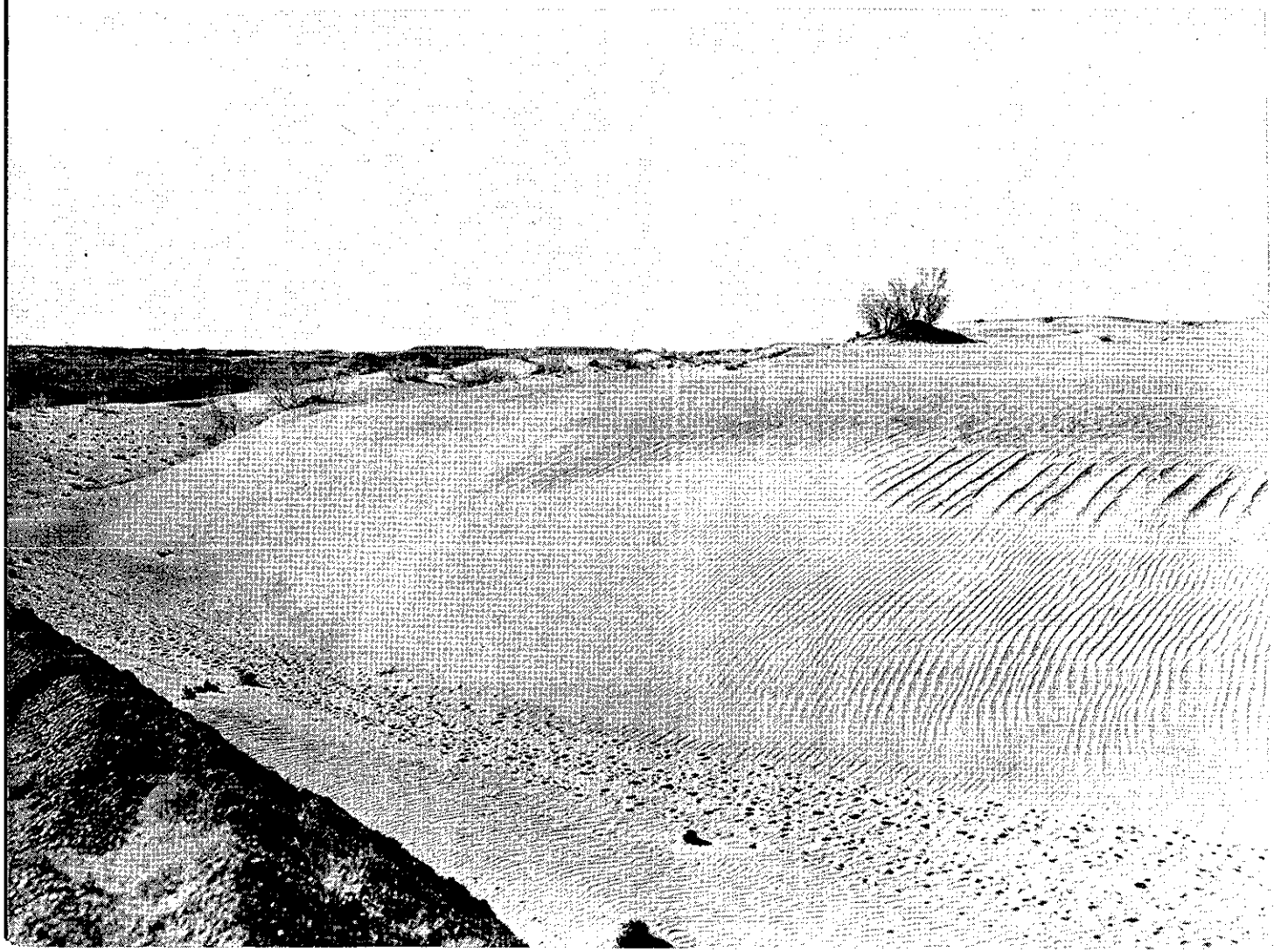


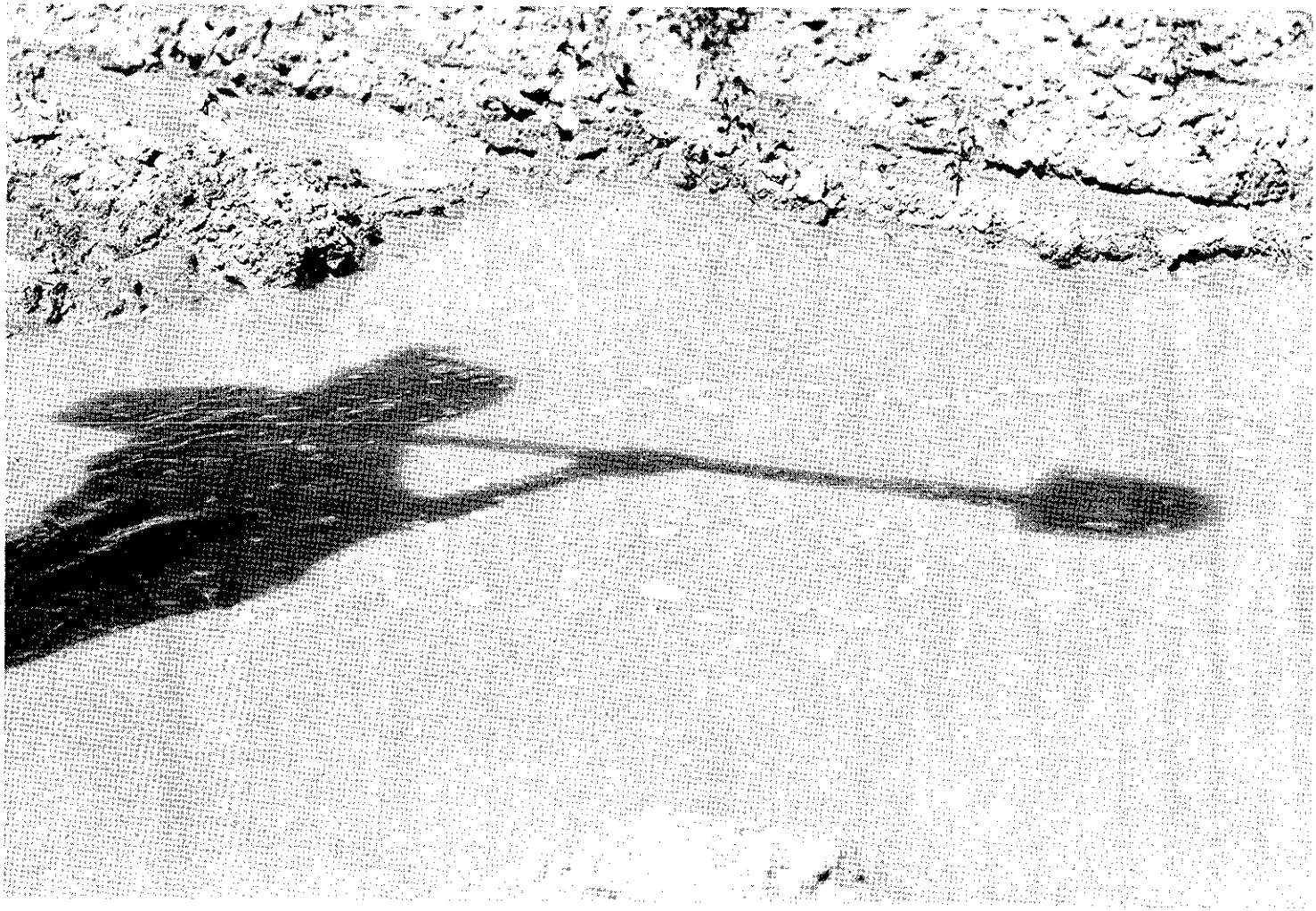
More locally-produced consumer goods as well as various service facilities are needed in the Kandahar area and other parts of Afghanistan. This project was designed to discover what small industries might, technically and economically, be established in the vicinity of Kandahar.
A survey is being provided by the Continental-Allied Company, Incorporated, under contract with I. C. A. If it is decided that an industrial district be established, further assistance would be considered for building and equipping some plants of different types on a single site, in or near Kandahar.

Two Afghan scientists were sent to the United States to study nuclear physics in an effort to pave the way for Afghanistan's use of nuclear energy in future resource development.
One of the men has completed the study program set up through this project at Argonne National Laboratories in the United States. The other has remained for further studies.

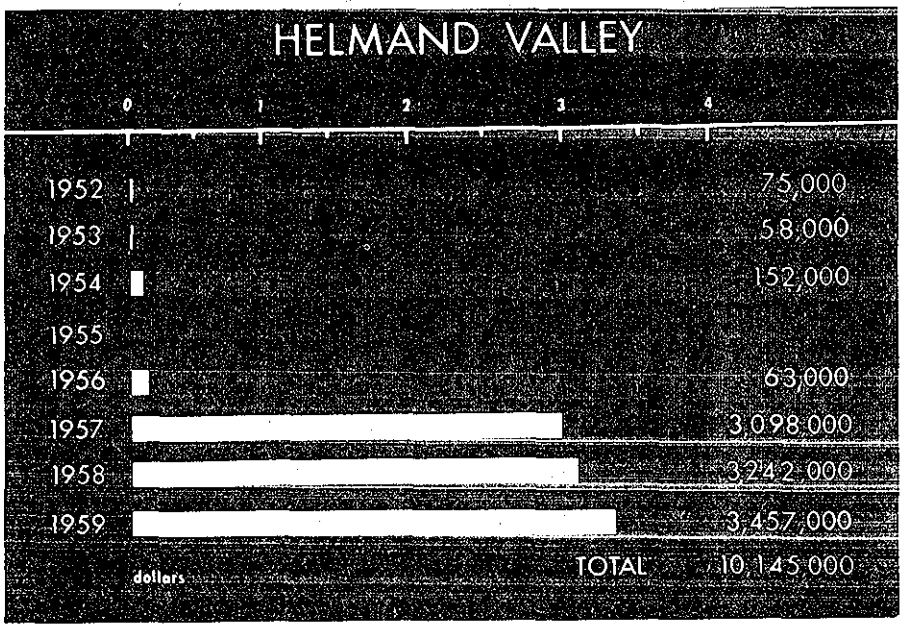


The HELMAND VALLEY...





CONQUEST of a barren area



The Helmand Valley with its numerous tributaries is located in the southwestern part of Afghanistan and occupies nearly half of the total 265,000 square mile area of the country.

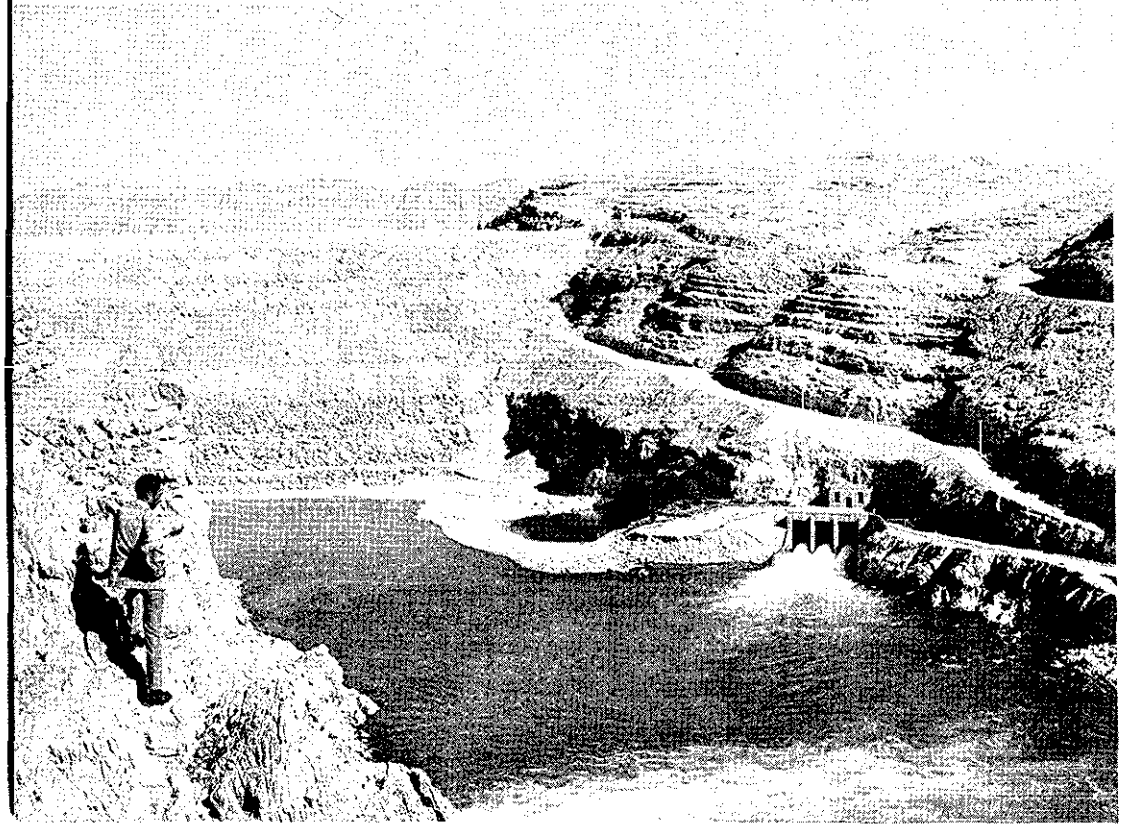
Mile after mile of ruins indicate that parts of the Valley were extensively cultivated 1,000 years ago or more. But successive hordes of invaders from the north and west destroyed large cities and major irrigation canals and left much of the area desolate.

Each year millions of acre feet of water from the Helmand Valley's spring floods flowed unused through the Arghandab and Helmand River valleys. So one of Afghanistan's first reclamation jobs was providing storage reservoirs on the Helmand and Arghandab Rivers to augment and regulate a supply of water for irrigation.

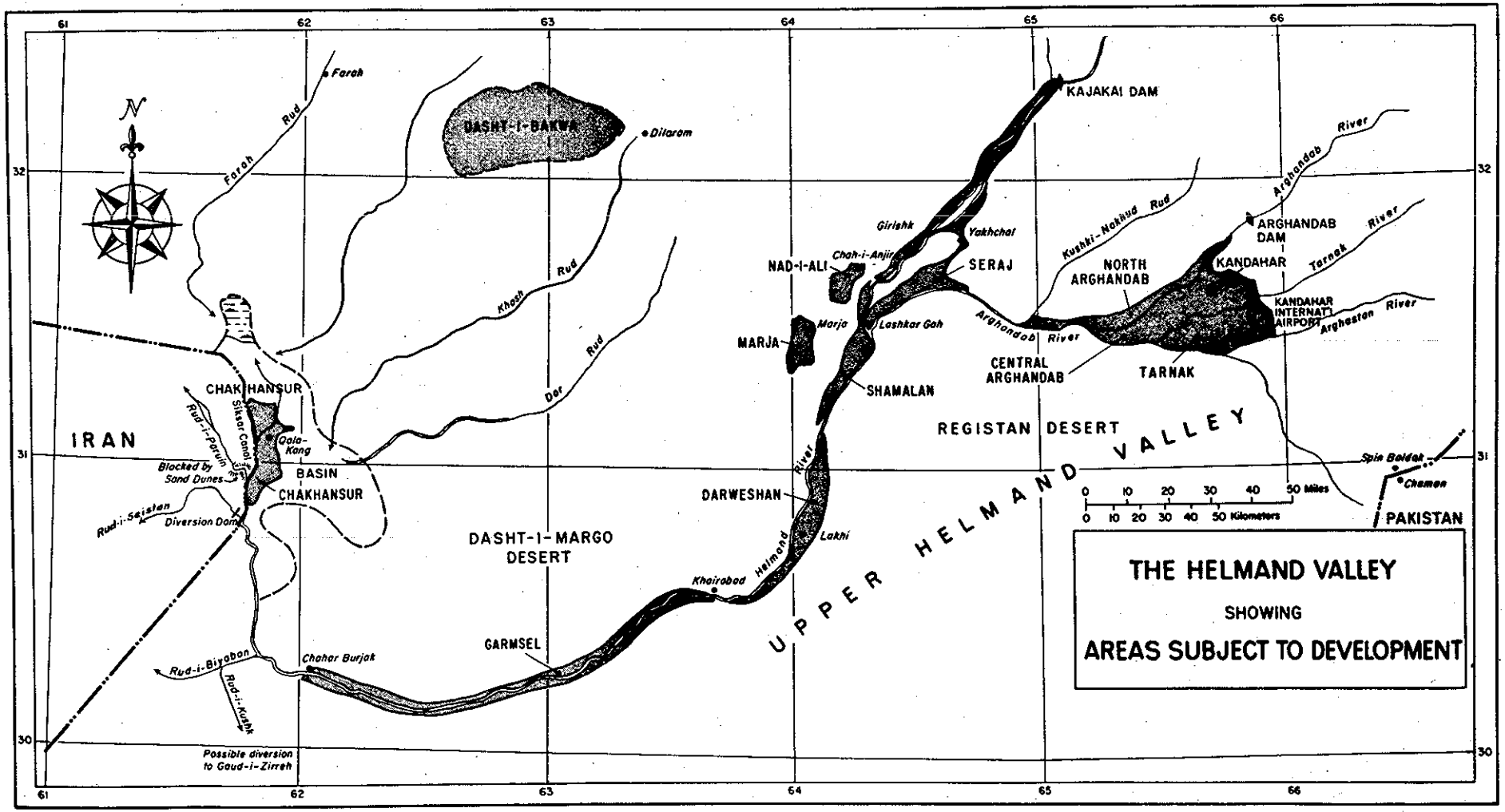
This construction as well as canals, roads, main drainage ditches, and structures has been carried out in accordance with American construction standards by the Afghan Government's contractor, Morrison-Knudsen Afghanistan, Inc.

Now the development of the Helmand Valley, with which I.C.A. has been and is primarily concerned, is an irrigation and land development project with incidental provisions for flood control and power development. It also embraces broad programs of improvement in agriculture, settlement of nomads as farmers, and rural development, including health and education.

When the present development program is completed, 202,138 acres of land will be receiving irrigation water through newly constructed distribution systems. An additional 337,685 acres will receive an increased and regular water supply for use through existing privately-owned canals.

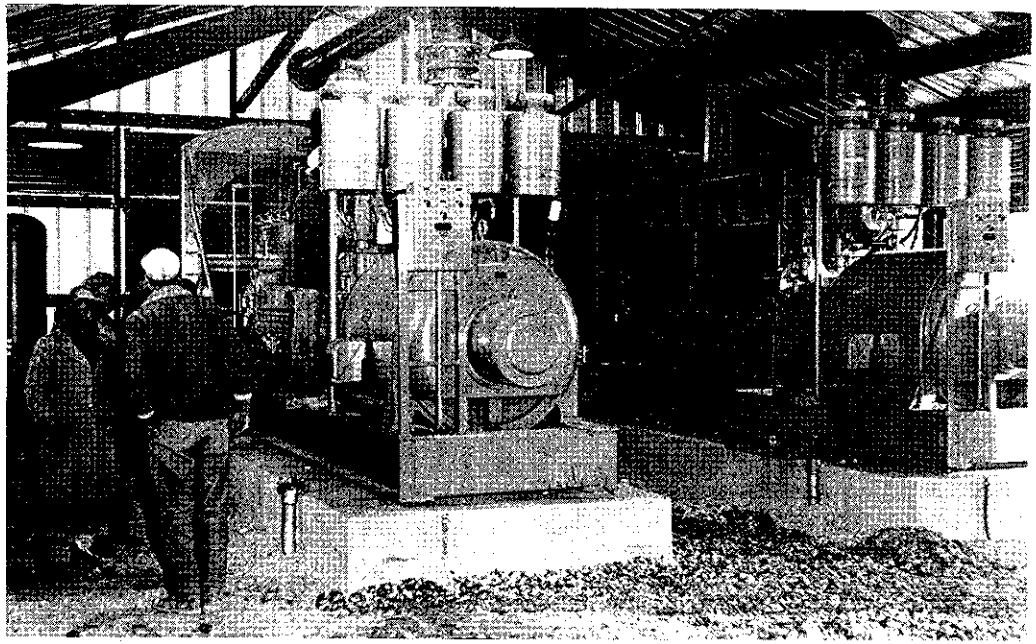


CLEAR PURE water billowing from the Kajakai discharge valves is a refreshing sight as it is released from the giant reservoir to bring life to the Helmand Valley. Three-hundred feet high and 887 feet along its crest, Kajakai Dam rises in a natural gorge on the Helmand River. Arghandab Dam located on the Arghandab River, also an earth-fill structure built by Morrison-Knudsen, is 145 feet high, 1740 feet long, with a reservoir capable of storing 350,000 acre-feet of water.


61
62
63
64
65
66
32
31
30
N
Farah
Farah Rud
DASHT-I-BAKWA
Ditarom
Khash Rud
Dor Rud
KAJAKAI DAM
Girishk
Yakhchal
Chah-i-Anjir
NAD-I-ALI
SERAJ
Kushki-Nakhud Rud
Arghandab River
ARGHANDAB DAM
NORTH ARGHANDAB
KANDAHAR
Tarnak River
KANDAHAR INTERNAT'L AIRPORT
Arghestan River
Marja
MARJA
Lashkar Gah
Arghandab River
CENTRAL ARGHANDAB
TARNAK
SHAMALAN
REGISTAN DESERT
UPPER HELMAND VALLEY
Spin Boldak
Chamen
PAKISTAN
IRAN
CHAKHANSUR
Qala-i-Kang
Rud-i-Parun
Siksar Canal
BASIN
CHAKHANSUR
Blocked by Sand Dunes
Rud-i-Seistan
Diversion Dam
DARWESHAN
Helmand River
Lakhi
DASHT-I-MARGO DESERT
Khairabad
GARMSEL
Chahar Burjak
Rud-i-Biyaban
Rud-i-Kushk
Possible diversion to Gaud-i-Zirreh
0 10 20 30 40 50 Miles
0 10 20 30 40 50 Kilometers
THE HELMAND VALLEY
SHOWING
AREAS SUBJECT TO DEVELOPMENT

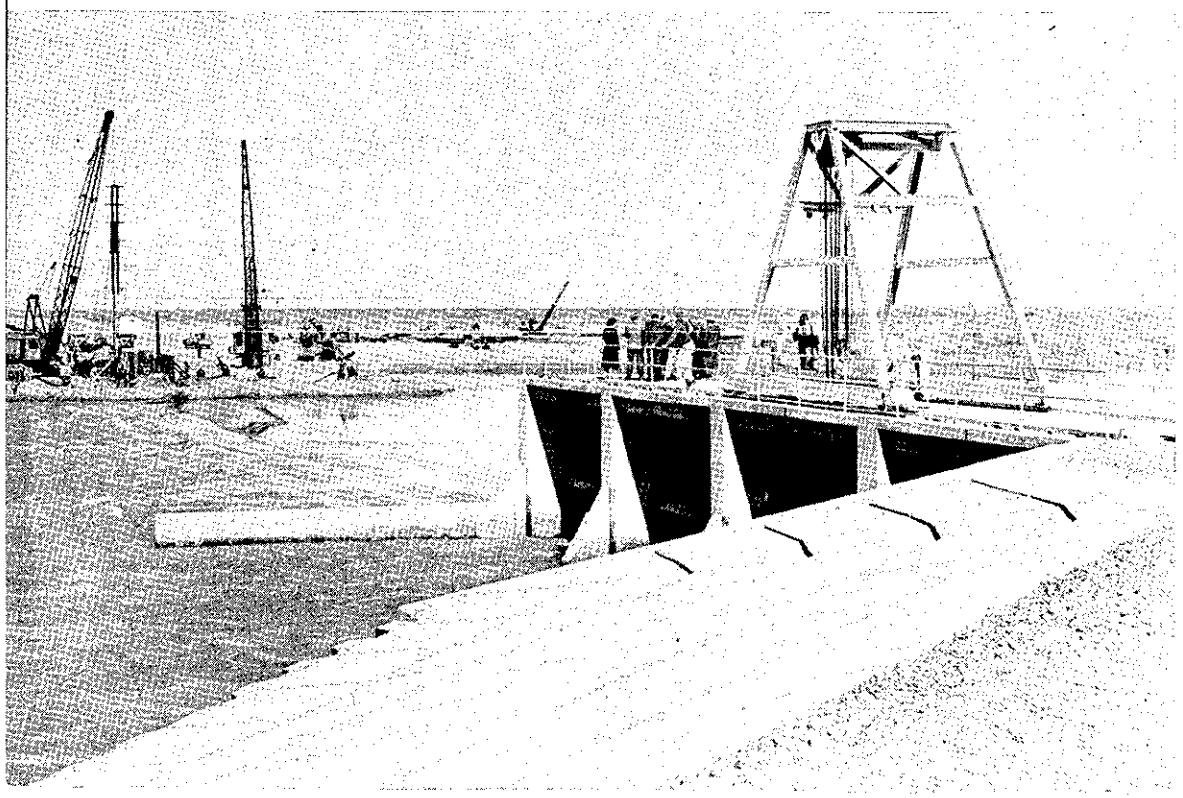
Helmand Resources Development

Helmand Resources Development includes activities in several different fields -- irrigation construction and surveys, land development, and electric power. It is actually a continuation and expansion of four separate projects, all designed to complete Phase I of the Helmand Valley Tudor Survey Mission's recommendations of 1956. Divisions are as follows:



TWO NEW 500 KW diesel electric generators have been provided to supplement th existing and potential power supply for the city of Kandahar in southern Afghanistar

DARWESHAN Diversion Dam on the Helmand River has been constructed for the Helmand Valley Authority through a contract with Morrison-Knudsen Afghanistan Inc.

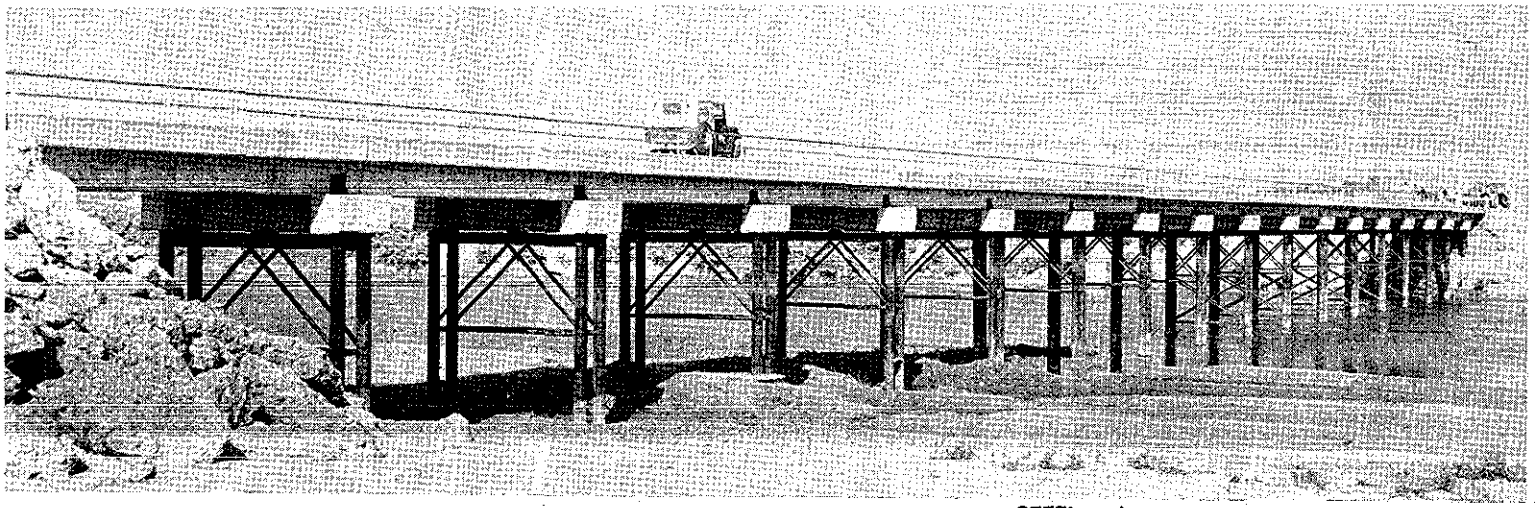


Helmand Irrigation Construction:

Construction of main irrigation canals, laterals, drains, and intakes on the Arghandab and Darweshan irrigation areas has been completed. This work was done through a contract with Morrison-Knudsen Afghanistan, Inc.

Helmand Electric Power:

Two 500 KW diesel-driven generators have been installed for the city of Kandahar to supplement the existing and potential power supply. An electrical distribution system for Kandahar is also being installed.



STEEL and concrete bridge crosses the Helmand River to the Darweshan area. The bridge was built by Morrison-Knudsen Afghanistan, Inc.

Helmand Land Development:

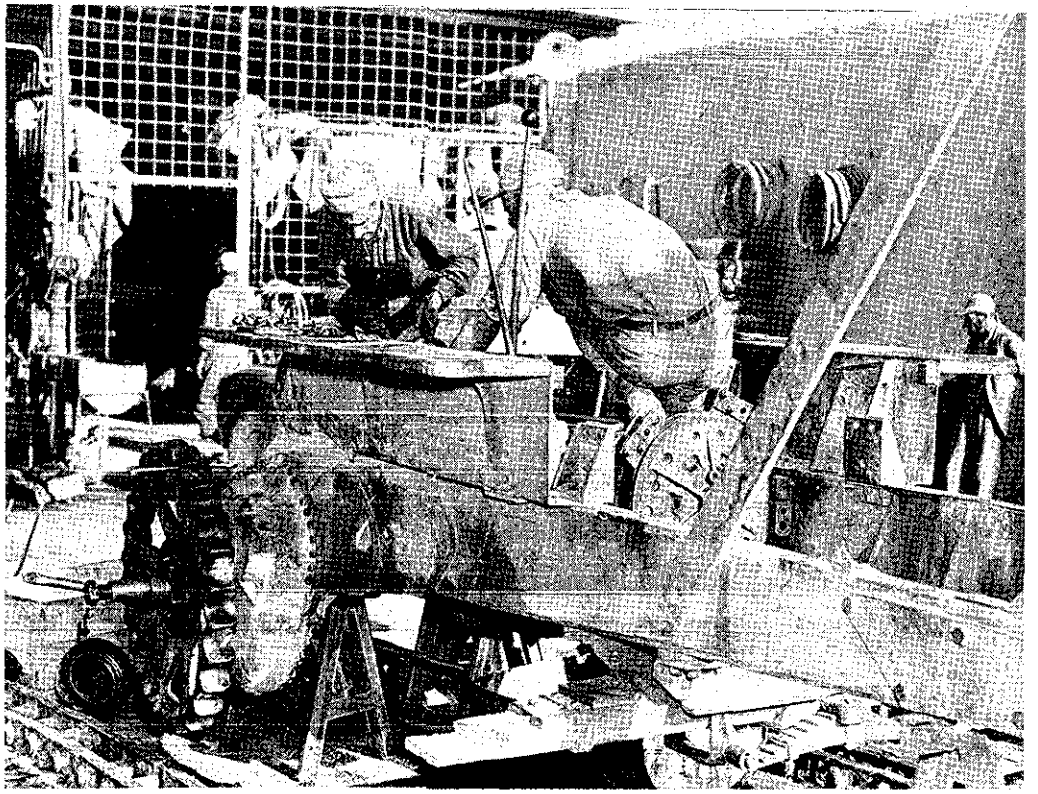
Technical services and equipment are being provided for the Afghan Construction Unit, the land development branch of the Helmand Valley Authority. This branch, organized in 1954, is responsible for land leveling, leaching of saline areas after suitable preparation, construction of irrigation laterals, as well as major canal repair work and construction of public buildings and improvements.

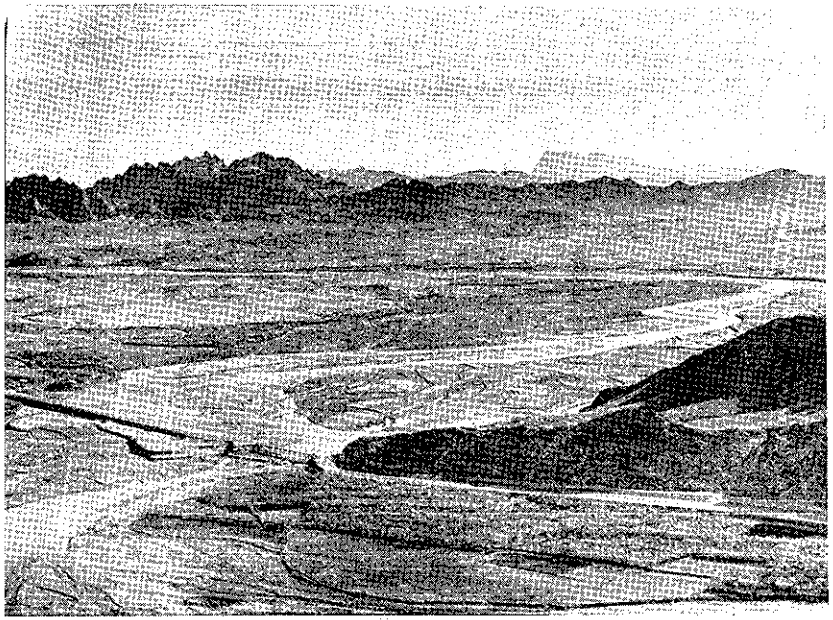
Helmand Resources Development:

With the completion of the main canals, laterals, and drains allowed for in this project, approximately 35,000 acres in the Darweshan area and 20,000 acres in the upper Tarnak area are now under development. The construction of laterals, canals, and drains for an additional 10,000 acres is planned. Other phases of this project, being carried out through contract with Morrison-Knudsen Afghanistan, are provision of a controlled intake and protection from flood damage for the Seraj Canal, and solving the seepage problem existing in the lower section of the Boghra Canal. The construction of the Hazar-Juft intake canal in the Darweshan area has been completed.

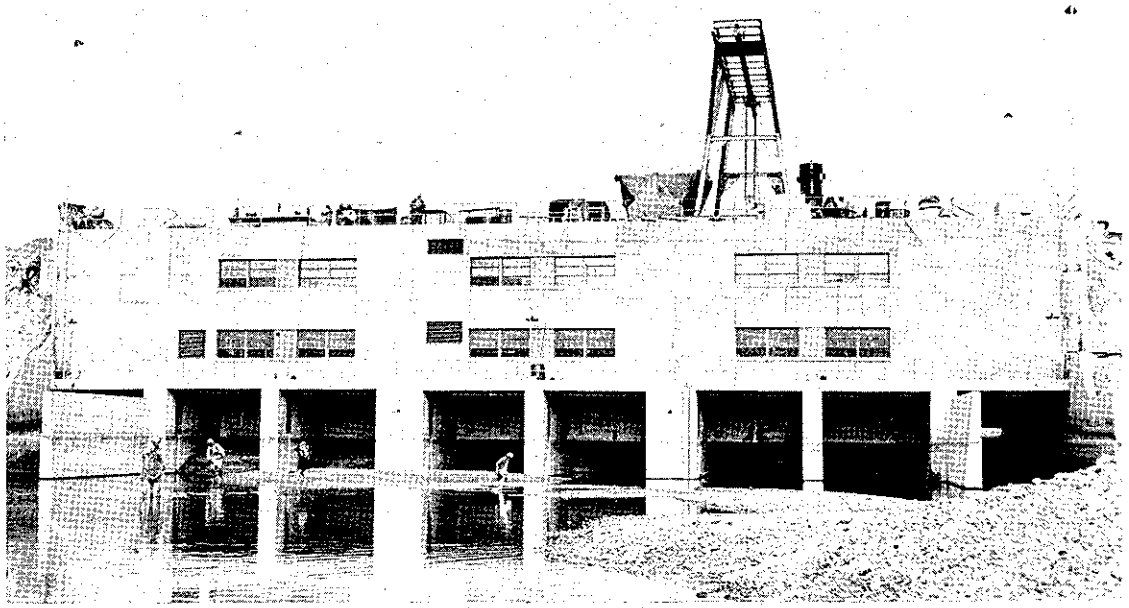
This project also provides for purchase and installation of hydro-electric power equipment at Arghandab Dam with a 25 mile electrical transmission line and additional distribution system for the city of Kandahar.

MECHANICS of the Afghan Construction Unit rebuild a tractor in the heavy equipment repair shop located at Chah-i-Anjir.

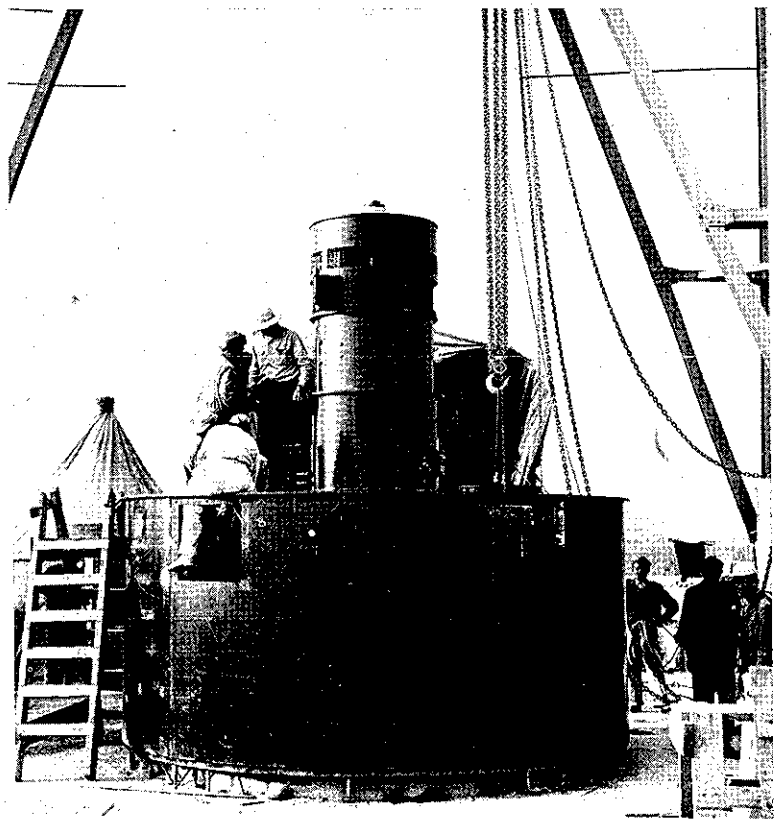




AERIAL view of Arghandab Diversion Dam at the head of the Zahir Shahi Canal.



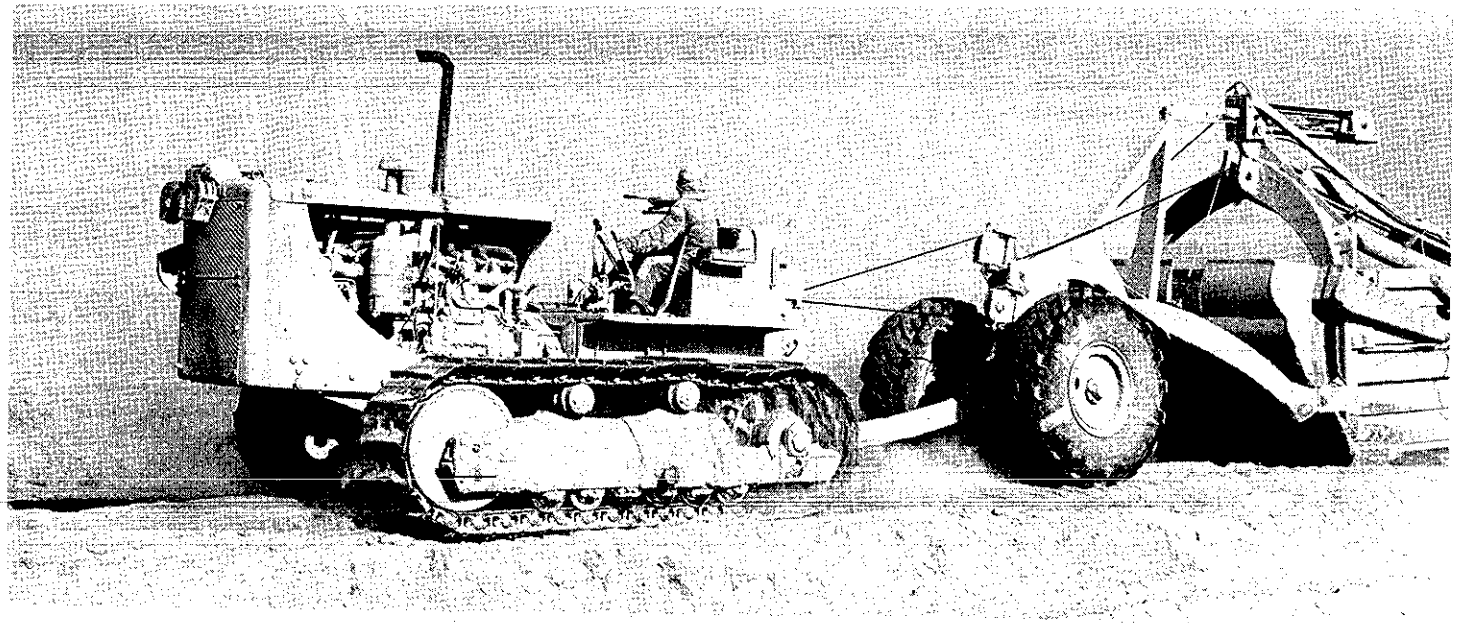
BOGHRA Power House built on a canal drop in the Boghra Canal. Two 1500 KVA electric generators have been installed and provision has been made for adding a third generator.



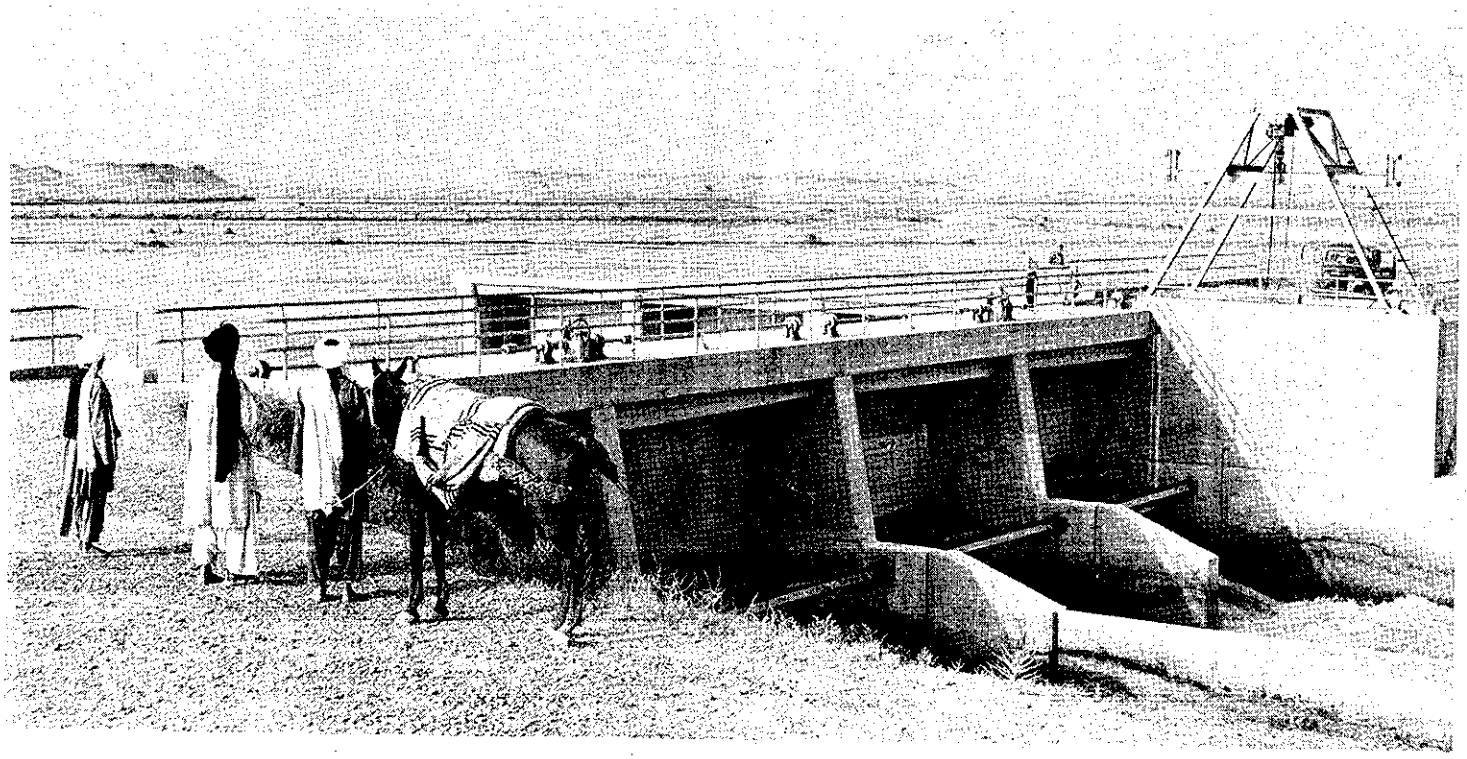
AFGHAN and American workers install one of the 1500 KVA generators in the Boghra Power House.

Over 250 kilometers of major canals have been built to bring water to new land and to improve water delivery to land previously irrigated. Along the Helmand River, the main irrigation canals constructed are the Boghra Canal, with a diversion structure north of Girishk and with a major extension, the Shamalan Canal, and the Darweshan Canal running through the central portion of the Darweshan area.

In the Arghandab area, the Zahir Shahi Canal has replaced centuries of hand dug ditches. It provides a permanent diversion from the river and will deliver a sure supply of water to the Patow power plant and to existing private canals in a rich production center for fruits, nuts, melons, vegetables, cotton, alfalfa, wheat, rice, and other grains. An extension of the Zahir Shahi Canal, called the Tarnak Canal, carries water across the upper end of the Central Arghandab area and delivers it into the Tarnak area.



THE AFGHAN Construction Unit is responsible for leveling and preparing new land made available through the Helmand reclamation project.



INTAKE structure to the Boghra Canal on the Helmand River.

Surface Water Investigation

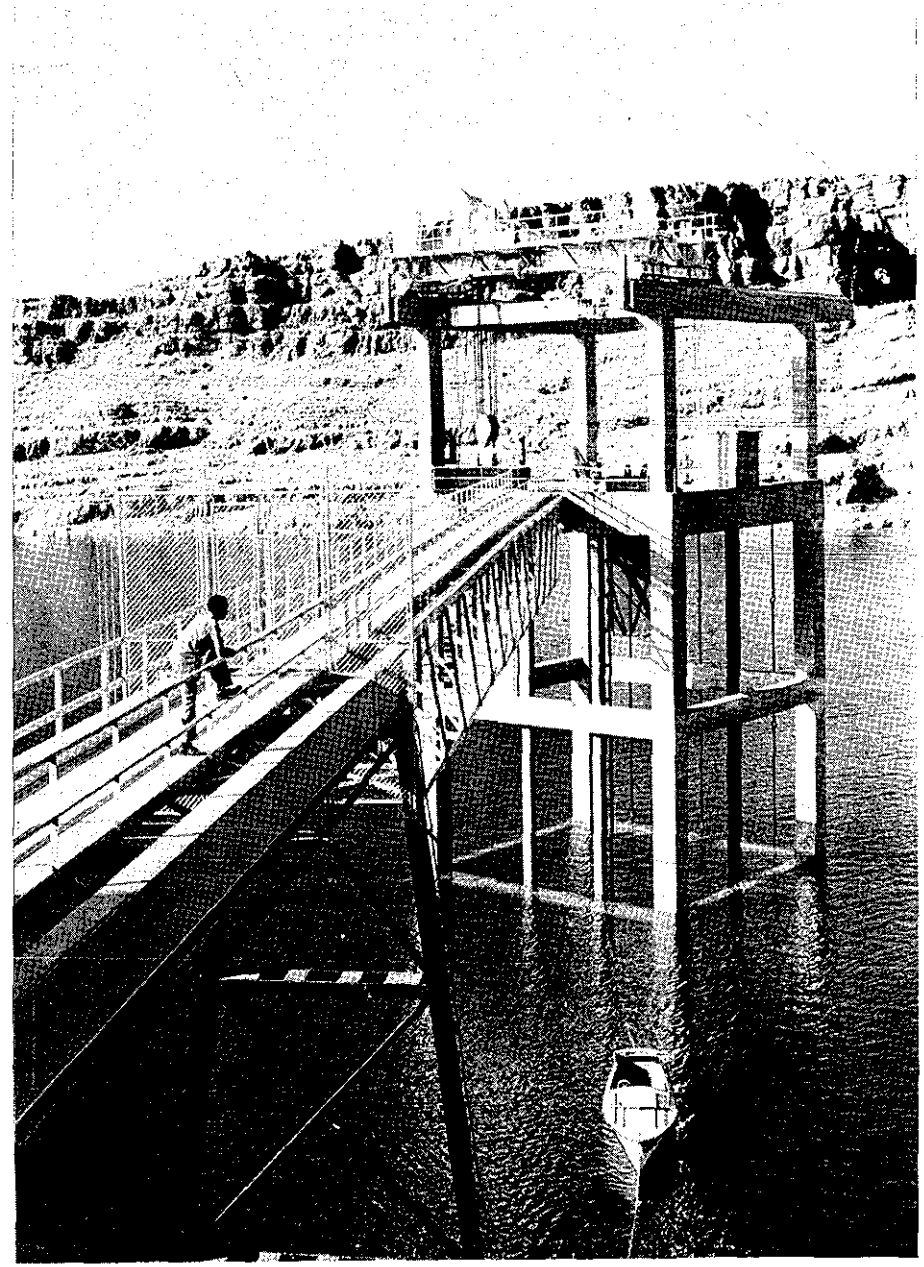
Once an adequate water supply has been developed, there remains the task of using it wisely. In this connection, Afghans and American technicians with the Helmand Valley Authority have faced difficult problems caused by a shortage of hydrologic information.

This project has as its basic objectives: (1) To provide accurate stream flow and climatological information for the development program in the Helmand Valley, and (2) to train Afghans to carry out the investigations and assume ultimate responsibility.

Hydrologists for the project have been furnished through an I.C.A. agreement with the U.S. Geological Survey. Sixteen stream-flow stations are now being operated in the Helmand and Arghandab River basins. Data is also being collected at three climatological stations and two suspended sediment collection stations (for the in-flow to the Kajakai and Arghandab reservoirs).

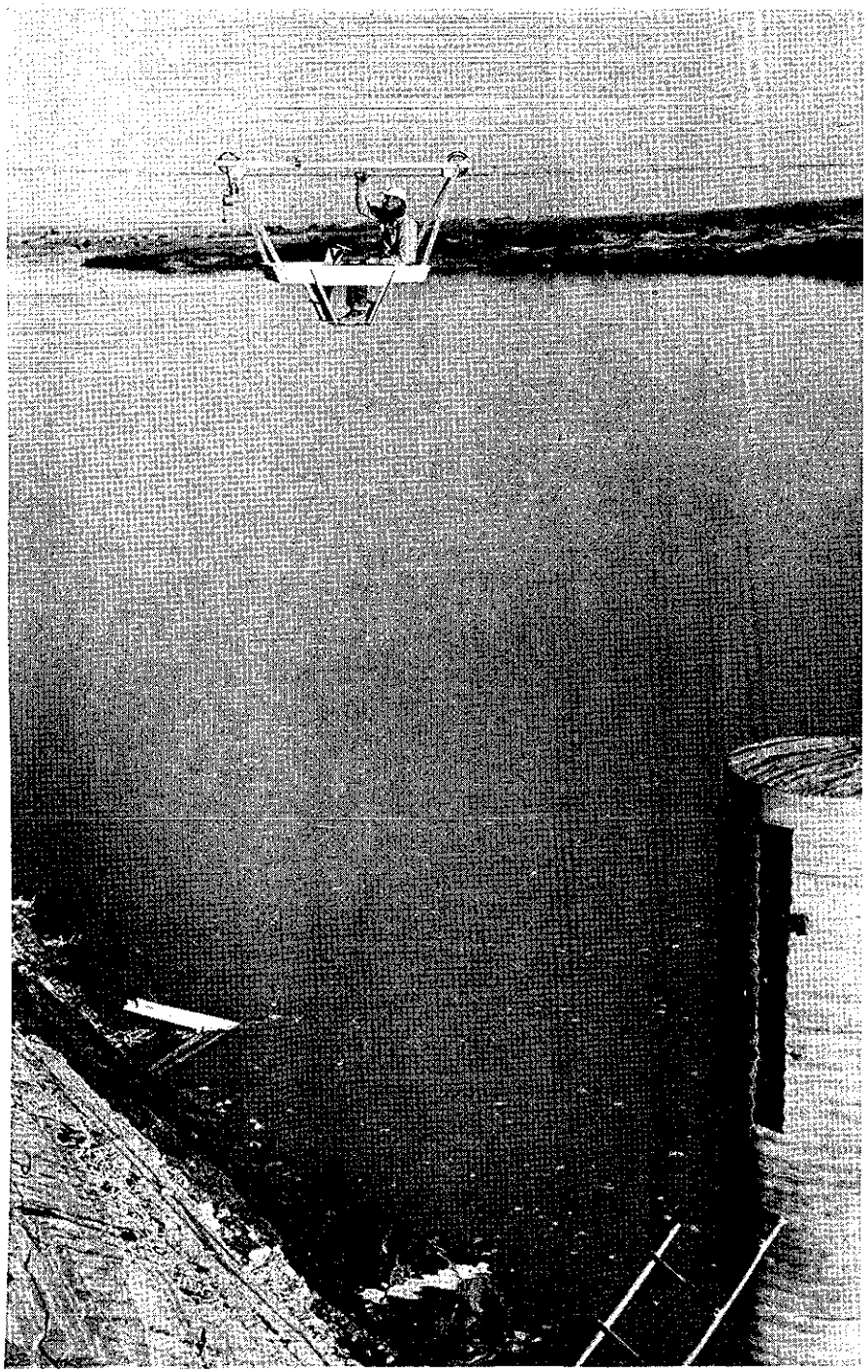
Several Afghans have been trained in the field of hydrology, and three participants have been sent abroad for advanced training. Work in this field, particularly in analyzing technical data, requires field and technical training, accuracy, and long experience.

Collection of such reliable physical data is essential to carrying out successfully the over-all program of land and water utilization for the agricultural and industrial development of southwestern Afghanistan.



CONTROL TOWER structure at the Kajakai Dam reservoir enables proper amount of water to be released through the control valves below the dam. Controlled properly, there is an ample supply of water for the hot, dry summer months.

I.C.A. Hydrologist I.A. Heckmiller crosses the lower Helmand River to collect data to enable the computation of the stream flow of the river at this point.



AFGHAN trainees measuring water surface inside stilling-well to record the rise and fall of the river stage on the Arghandab River near Qaleh Bist.

Helmand Valley Authority Development Operations

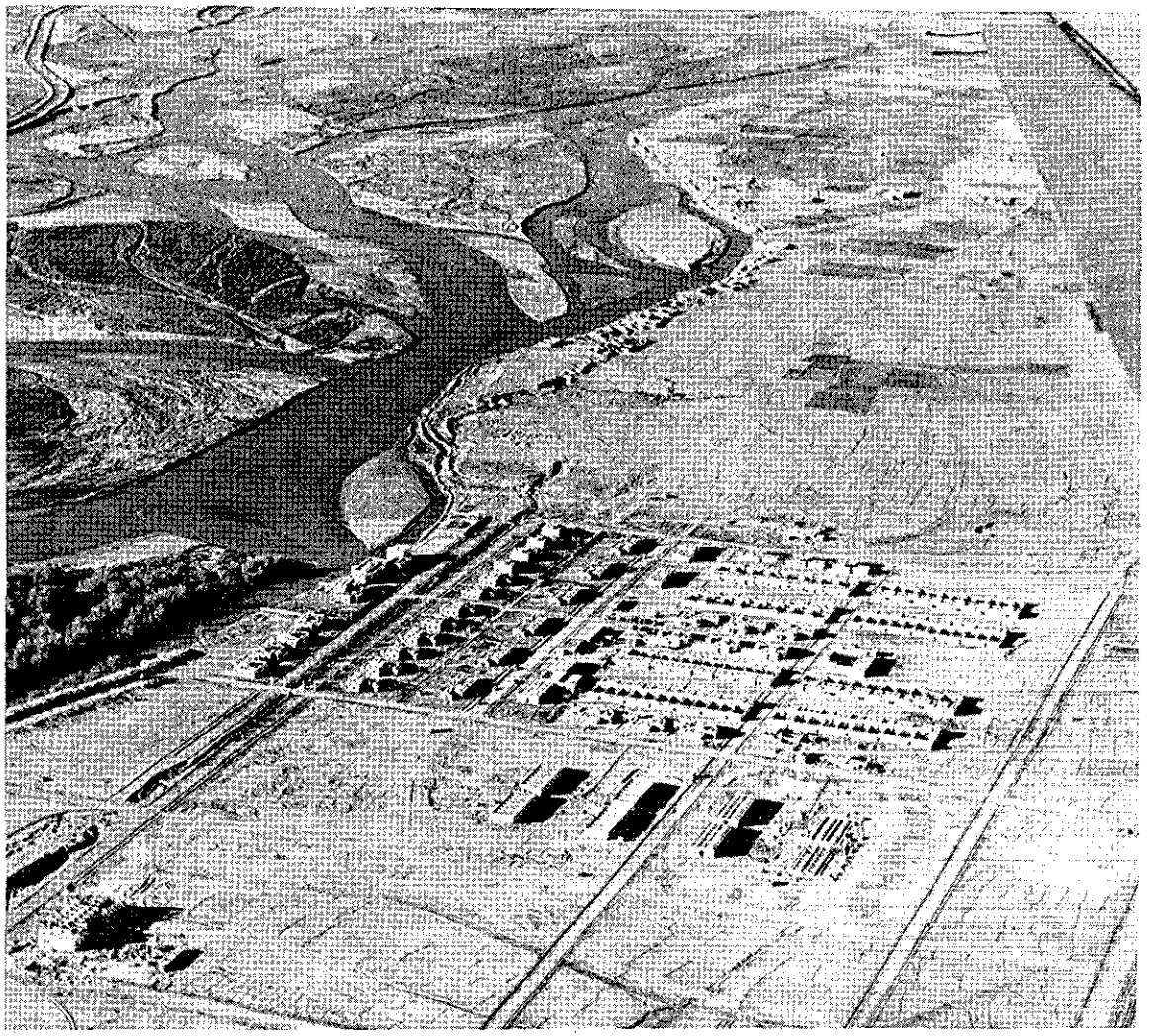
The Helmand Valley Authority, an agency of the Royal Government of Afghanistan, is charged with the tremendous task of planning and managing operations, including preparing, settling, and administering large areas of new land reclaimed in southwest Afghanistan through the initial construction program.

In such an undertaking the activities are naturally many and complex. Land leveling, settling of nomads, developing small industries, maintenance of canals are only a few.

To meet the needs of the HVA in its varied planning, management, and operational functions, I.C.A. is supplying both technical and economic assistance through this project. Provision of engineers and specialists under contract to work with the Board of Directors of HVA is one important area of endeavor.

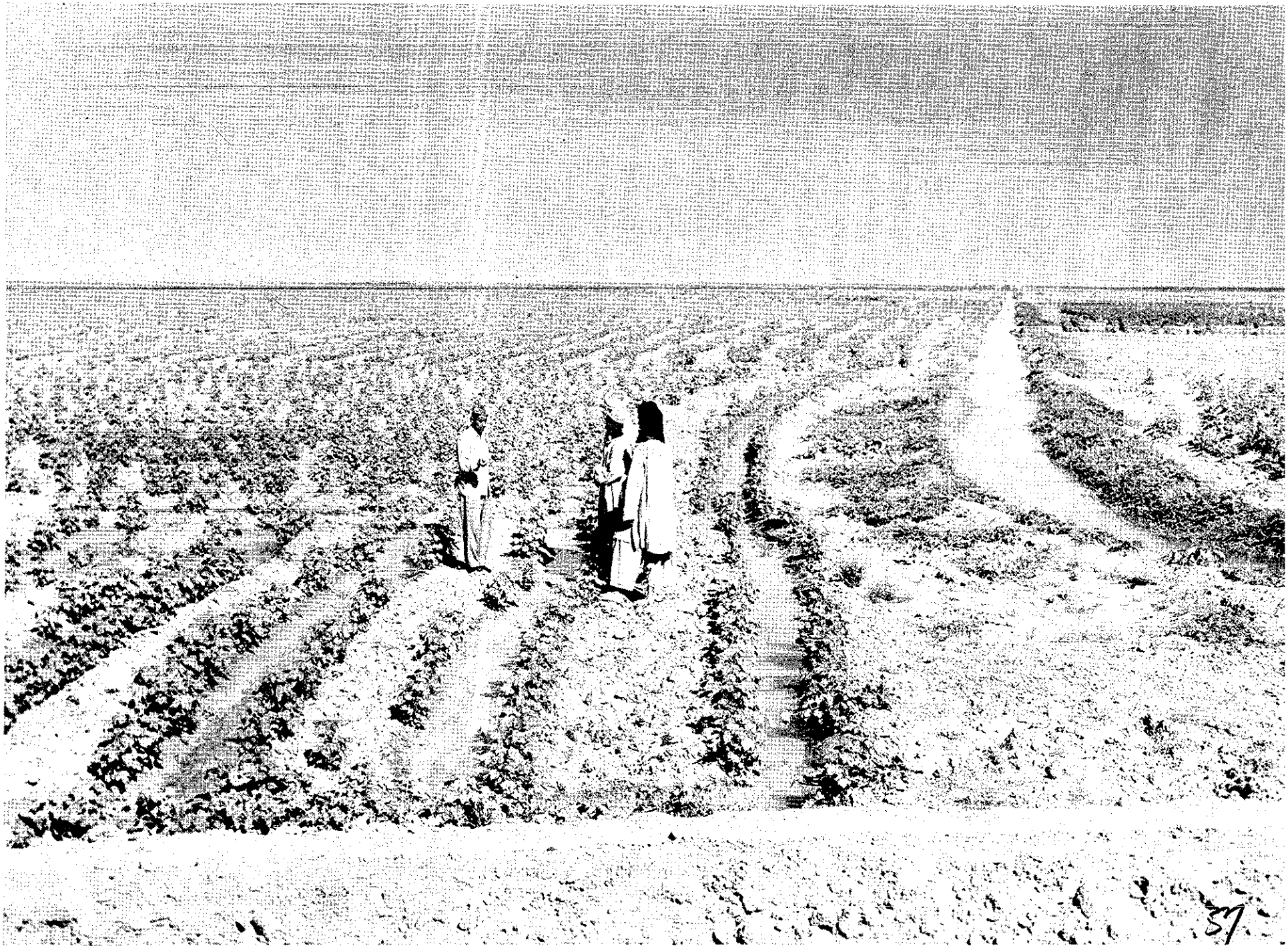
Advisors have been or will be made available to assist HVA in practical programs for land and water resources development. Others are being provided to work on planning, supervising, and inspecting construction of additional irrigation works and electric power facilities, both of which are to be financed in part by I.C.A.

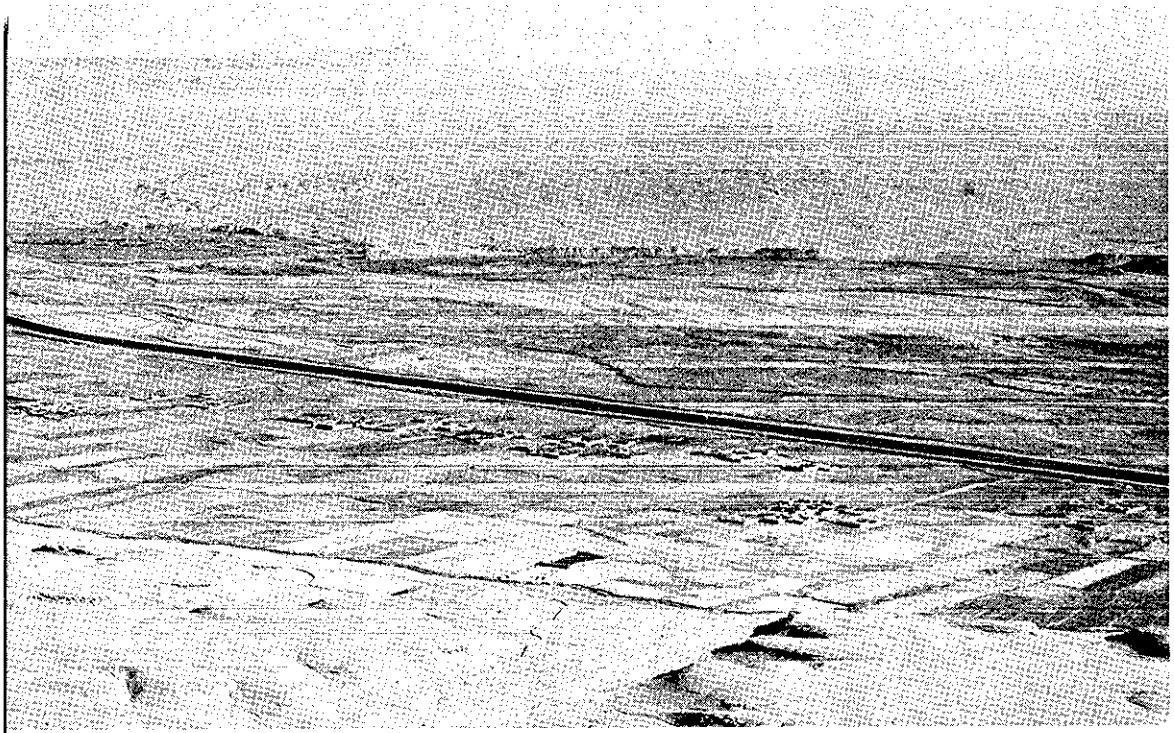
The sum of $200,000 on a grant basis was made available for this project in Helmand Valley Authority Development Operations. Of this, $50,000 is for procurement of materials, supplies, and equipment, and $150,000 for engineers and inspectors under contract for a two-year period.



CENTER for all activities of the Helmand Valley Authority is the model city of Lashkar Gah, which has sprung up in the middle of the desert during the last five years. Modern, carefully-designed Lashkar Gah is a striking contrast to the abounding ruins in surrounding areas. I.C.A. technicians *in city planning, sanitation, and many* other fields worked with HVA in realization of this bright, new city, located near the confluence of the Helmand and Arghandab Rivers.

COTTON field in the Marja area is now assured an adequate water supply from the Boghra Canal. Mr. Abdul Hakim, Assistant Chief Agriculturist of the Helmand Valley Authority, trained at the University of Wyoming, explains proper methods of irrigation to Afghan farmers.



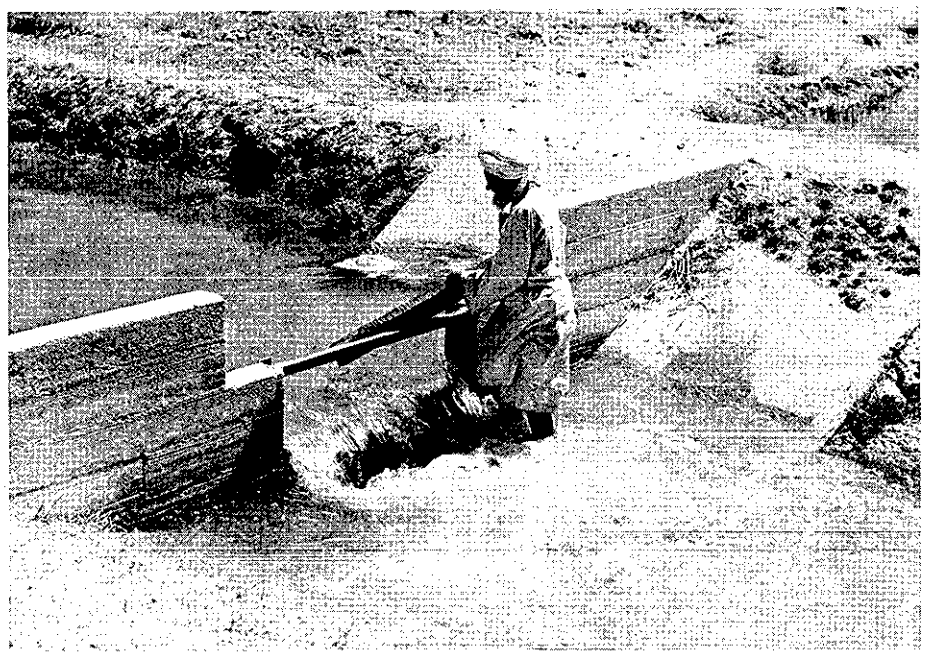


THIS is an aerial view of the Boghra Canal near the town of Girishk.

Another important facet of the project is assistance in the planning of operation of the Afghan Construction Unit so that this branch of HVA, in charge of land development, becomes an efficient, self-reliant organization.

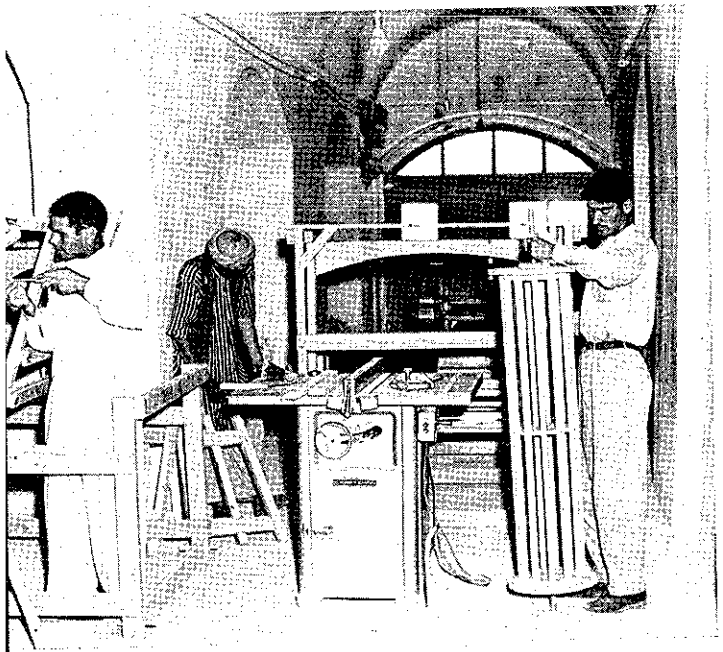
Public Administration Services, under contract with I.C.A., is furnishing a specialist in general management and organization and a specialist in fiscal administration.

A handicraft specialist and a light equipment workshop advisor are also carrying on project activities at Lashkar Gah.

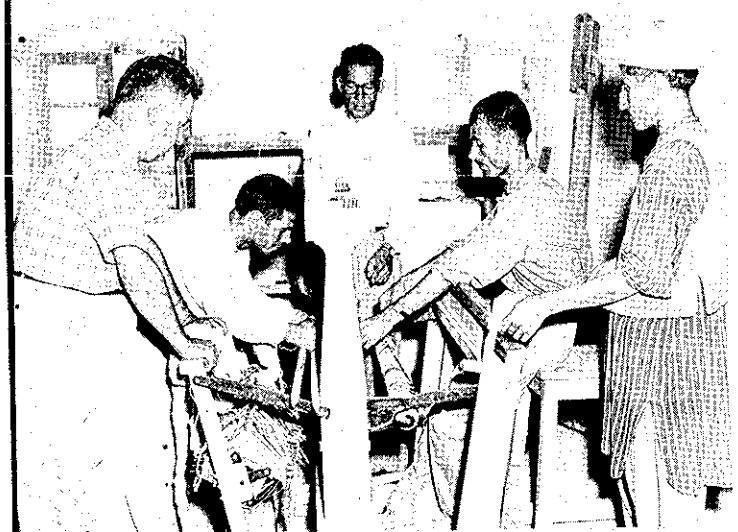


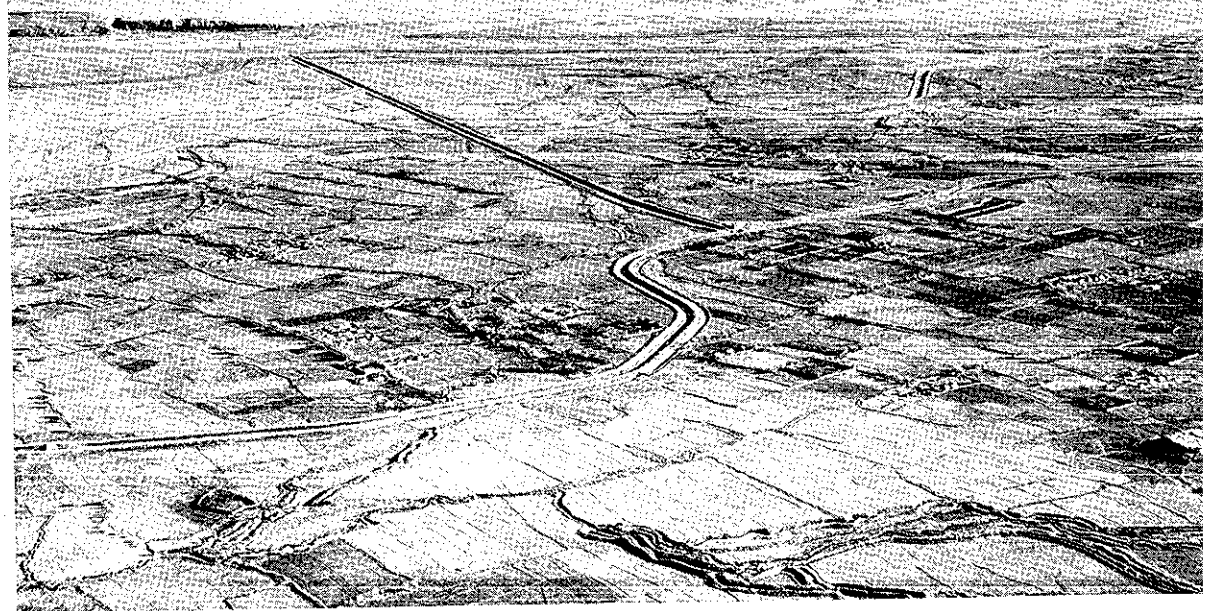
COMBINING wheat in the Marja area.

AFGHAN farmer in the Marja area releases abundant water for irrigating his land.



I.C.A. technician Charles Churchill has helped establish a center in Lashkar Gah for training instructors in handicrafts, particularly hand weaving. Above: A workshop in Lashkar Gah produces looms for use in the villages. Below: Instructing workers on proper use of looms made at the center.





AERIAL view of the Shamalan Canal with the Helmand River in the background. The Shamalan Canal is 66 kilometers long.

ROWS of evergreen trees line neatly-laid-out block of Lashkar Gah, center for Helmand Valley Authority operations.

Helmand Public Health And Sanitation

Improvement of health practices and general level of public health in the Helmand Valley are the aims of this cooperative project with the Helmand Valley Authority. These are being accomplished by completing and equipping a public health hospital and clinic at Lashkar Gah and by providing training abroad for Afghan public health personnel.

The new hospital-clinic building, designed through I.C.A. and HVA architectural services, is now approximately 50-per-cent completed. Three Afghan physicians have been sent abroad for public health and hospital administration training, and five men have received training in environmental sanitation and have returned to the Helmand Valley to work.

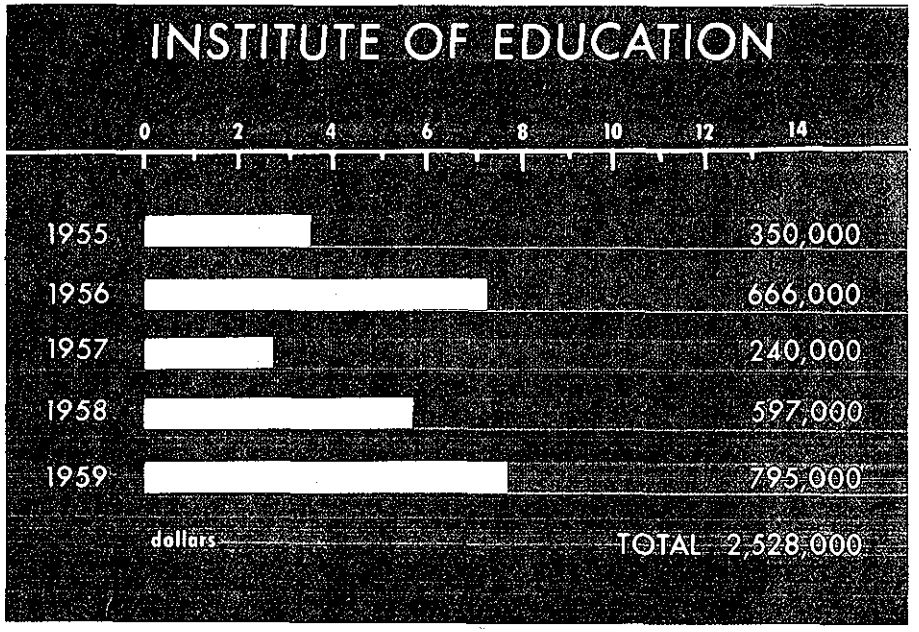
It is planned that the training center and hospital in Lashkar Gah be staffed with Afghan personnel with assistance in public health activities from the World Health Organization and in hospital management and operation from Medical International Cooperation (Medico), a private American organization.

During the last five years, many public health activities, such as small pox vaccination, malaria control, and public health education have been successfully undertaken in the Helmand Valley. Also, substantial quantities of equipment, including motor vehicles, two mobile clinicars, audio-visual equipment, a well-drilling rig, cement for latrine slabs, and medical supplies have been furnished. I.C.A. furnished for one year a Public Health Physician, and a Sanitary Engineer for two years.

EDUCATION

"Afghaunistan cuwjas?" ("Where is Afghanistan?"). Afghan boys attending Laboratory School during Winter Workshop locate their central Asian country on a papier maché globe made by the Institute of Education.

A VISUAL AID is used to teach arithmetic to fifth graders during a Winter Workshop class.



Afghanistan realizes that the key which will open the door to success in many of her developmental endeavors is education. Afghans are eager to learn. And the country's educational leaders are anxious to help them through improved methods and teaching facilities.

The Institute of Education Project was started in 1954 to assist the Ministry of Education in developing a better program of teacher education. This is being accomplished through development of curricula more adapted to the needs of a growing Afghanistan and through preparation of materials, both for teacher training and for primary and secondary education.

Nine American specialists in teacher education have been brought to Afghanistan through an I.C.A. contract with Teachers College, Columbia University. About 50 Afghans are now working closely with this team in order to take over complete leadership responsibility for an adequate and self-sufficient Afghan educational program.

Another job of the team is working with present teachers to improve their status and to train new teachers to carry out the programs of the above-mentioned leaders. Similar work along the above lines has been begun in order to provide for the education of women in Afghanistan.

Necessary imported commodities, such as books, duplicating equipment, film projectors, paper, and tools have been furnished by I.C.A. The Ministry of Education has contributed additional supplies and equipment besides two buildings and a number of personnel, to speed realization of these essential goals.

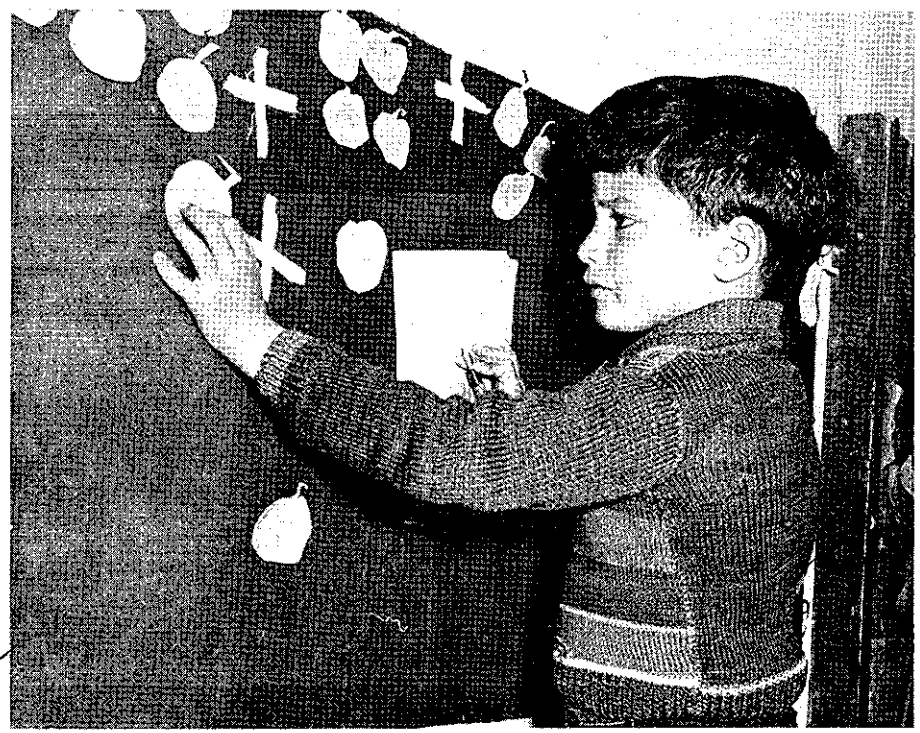
Twelve Afghan specialists in education have had continued association with the Institute and a period of study in the United States. An additional ten participants are now studying in the U.S., and project plans include sending over 25 more abroad during the next year.

The Institute of Education has now been officially made a part of the University of Kabul. It is responsible for experimentation and research in education and works closely with the Ministry of Education.

SCHOOL boys intently prepare cooperative mural of "Scenes Near My School" during art session at Laboratory School held at Darul Mo'Allamein Teachers Training College. Over 200 Afghan teachers from all sections of the country attended the two-month winter session sponsored for the fourth successive year by the Ministry of Education and conducted by the Institute of Education with Columbia University Team assistance.

STAFF of the
Institute of Education during
the Winter Workshop
session.

A MAP of area surrounding the school is made from clay during Winter Workshop session.



STUDENT enjoys using flannel board while learning his addition. First Winter Workshop, held in 1956, began as a simple in-service program to help teachers learn new teaching methods. Now it has broadened into an accepted institution offering general education courses as well. The Ministry now awards one full year of academic credit to teachers who successfully complete three winter sessions.

English Language Program

A special feature of assistance to the Institute of Education is the English Language Program, added in 1955. Its purpose is to assist in developing basic linguistic research, to improve instruction in English in Afghanistan schools, and to prepare Afghans to take complete responsibility for teaching English in Afghanistan. In addition, much of the direct burden of teaching during the period when Afghan teachers are being prepared is assumed by this program.

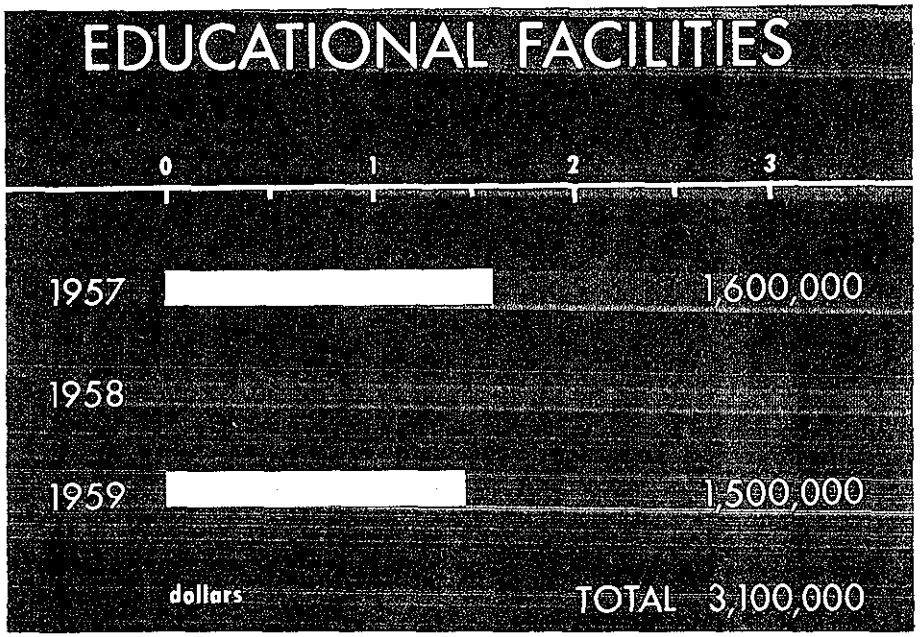
Seventeen specialists in English language teaching have been brought to Afghanistan by Teachers College, Columbia, to accomplish these purposes.

Two books of a six-book series have been approved by the Ministry of Education, and work is progressing on others, plus special materials for supplementary instruction.

English teaching is being provided at the Faculty of Agriculture and Engineering, the Afghan Institute of Technology, the Vocational Agriculture School, Habibia College, Darul Mo'Allamein, and Ebn-E-Seena, and to the Afghan Air Authority School. In-service training for English teachers has also been provided. Research in Pushto and Persian on problems of teaching English to native speakers of these languages has been done.

(L. to R.) Abdul Afu Babury, Mohammed Yakub Berian, Dr. Ralph Spence (Chief of the Columbia Team), Hafizillah Sahrai, and Sami Hamid are shown with a display of some Institute of Education publications.

THROUGH the unique laboratory school method, students were able to observe over 100 second and fifth class Afghan boys being taught by skilled teachers using improved methods during the Winter Workshop. Mr. M. Iamuddin gives a demonstration for three Workshop participants.



THE NEW Kabul University in a model prepared by a U.S. architectural firm. It will have facilities for 10,000 students and will unite the present scattered campuses of the University at a 380-acre site.

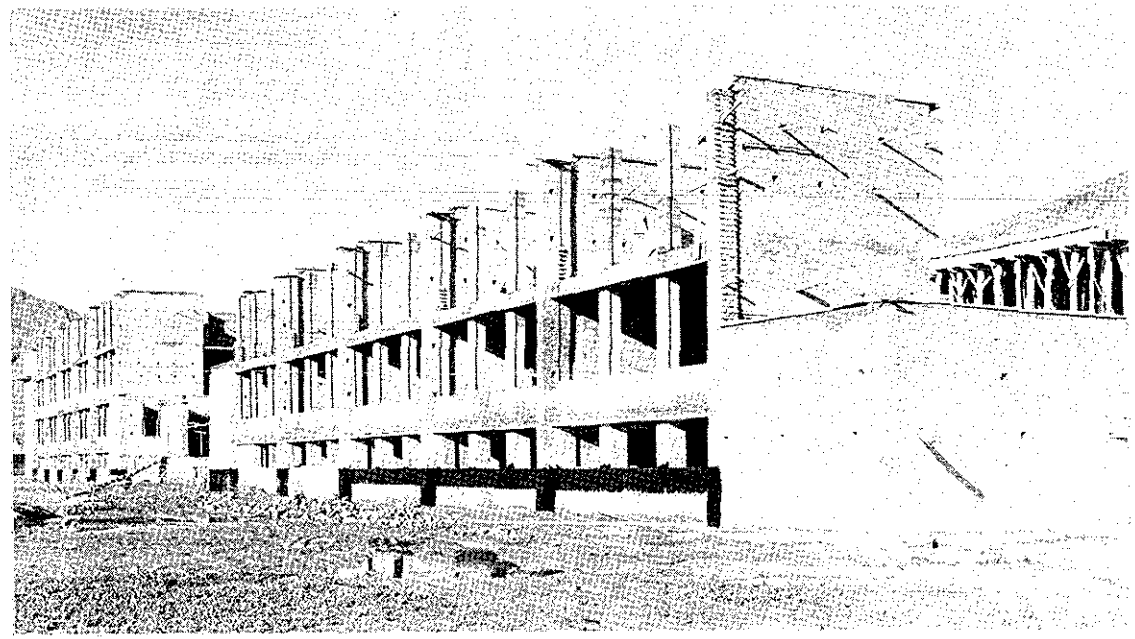
agreed. About $100,000 of the above total has been provided for the new Habibia school building program.

The modern Kabul University envisioned by the Ministry of Education will provide (1) classrooms, laboratories, offices and other space for the Faculty of Agriculture and Engineering, the Institute (or Faculty) of Education, and other Faculties; (2) space for administration offices and a library; and (3) a student dormitory.

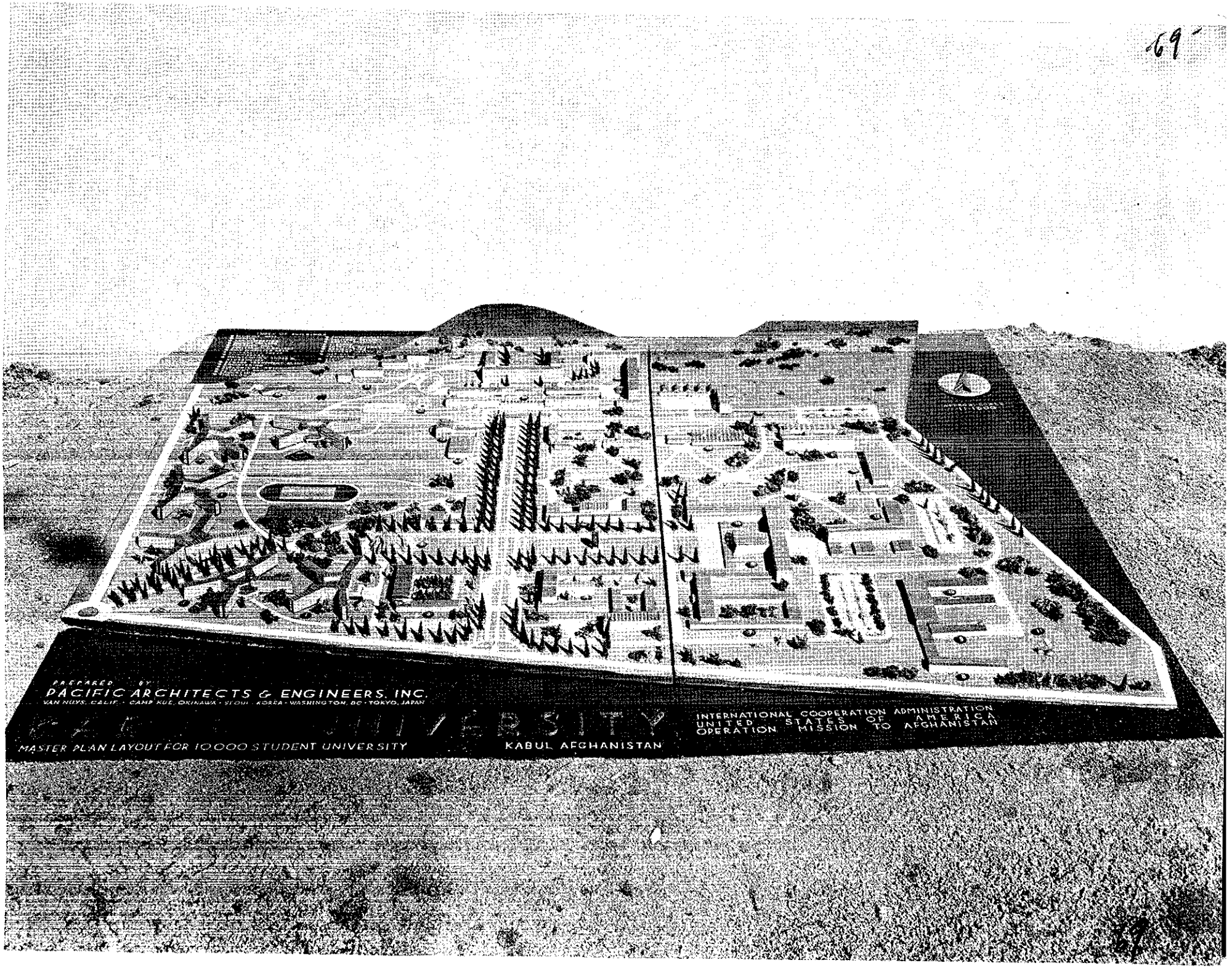
Officials of both the Ministry of Education and the Ministry of Public Works are working closely and enthusiastically with I.C.A. on this far-reaching project.

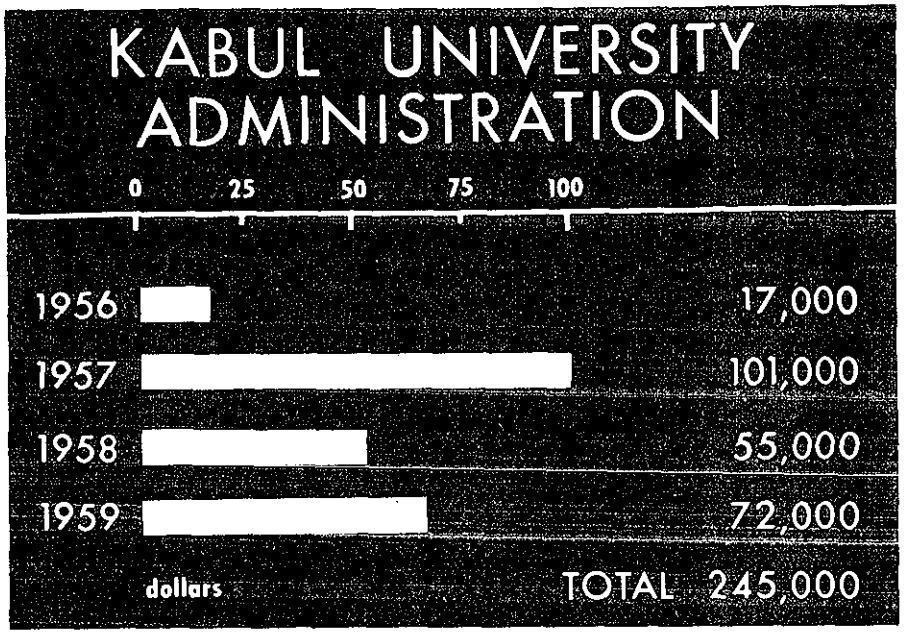
A grant of $1,600,000 is being made available to the Royal Government of Afghanistan to advance its important program of constructing new Kabul University and equipping new Habibia College. Afghanistan is providing 35,000,000 afghanis to defray costs of local materials, labor, and construction.

Five buildings for a new Kabul University have been designed by the American firm of Pacific Architects and Engineers, under contract with I.C.A. and construction will begin by the middle of this year. Another part of the project provides for such construction and equipping of the Afghan Institute of Technology and the Vocational Agriculture School as may be mutually



CONSTRUCTION of a new building for Habibia College, one of the oldest, best-known academic schools in Kabul, has been initiated by the Ministry of Education. I.C.A. has obligated $100,000 to supplement the construction and provide imported materials, supplies and equipment.


PREPARED BY
PACIFIC ARCHITECTS & ENGINEERS, INC.
VAN NUYS, CALIF. · CAMP KUE, OKINAWA · SEOUL · KOREA · WASHINGTON, DC · TOKYO, JAPAN
UNIVERSITY
MASTER PLAN LAYOUT FOR 10000 STUDENT UNIVERSITY
KABUL AFGHANISTAN
INTERNATIONAL COOPERATION ADMINISTRATION
UNITED STATES OF AMERICA
OPERATION MISSION TO AFGHANISTAN



Kabul University was established as a unit in 1946, though some of its separate colleges began in 1932. Now it has over 1300 students. To aid the advancement of this advanced branch of the Afghan educational system, an American advisor has collaborated with the President and administrative staff for one and a half years in a study of administrative practices. Recommendations for immediate and long-term improvements in these areas have already been made and in some cases put into practice.

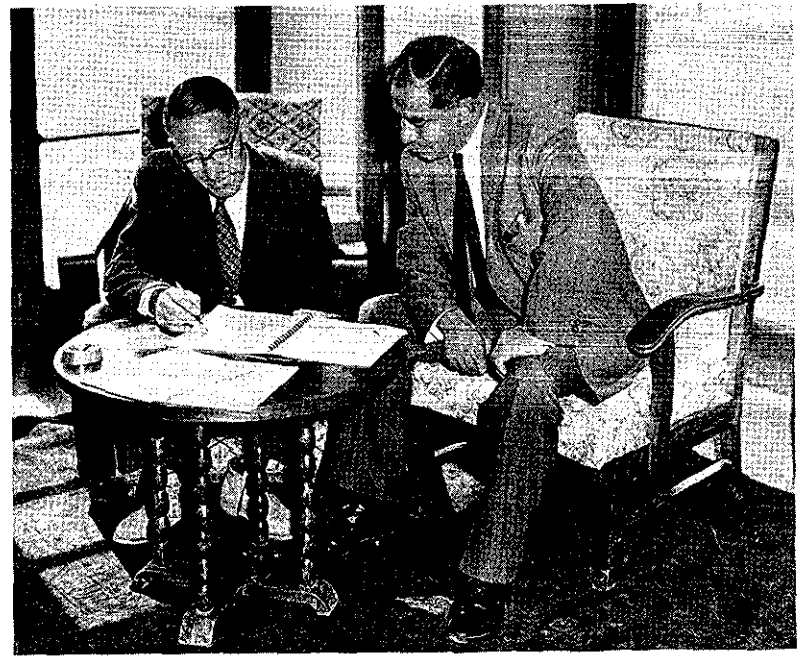
Once this cooperation was initiated, it was agreed that assistance should also be given in curricular and instructional functions of the University. In this connection, President of the University, Mohammed Asghar, made an eight-week tour of United States universities discussing problems of university development with American university officials. Further on-the-scene studies will be made when a group of American experts on university affairs is brought to Kabul later this year. Once their recommendations are submitted, it is planned that a university-to-university contract will be negotiated to carry them out.

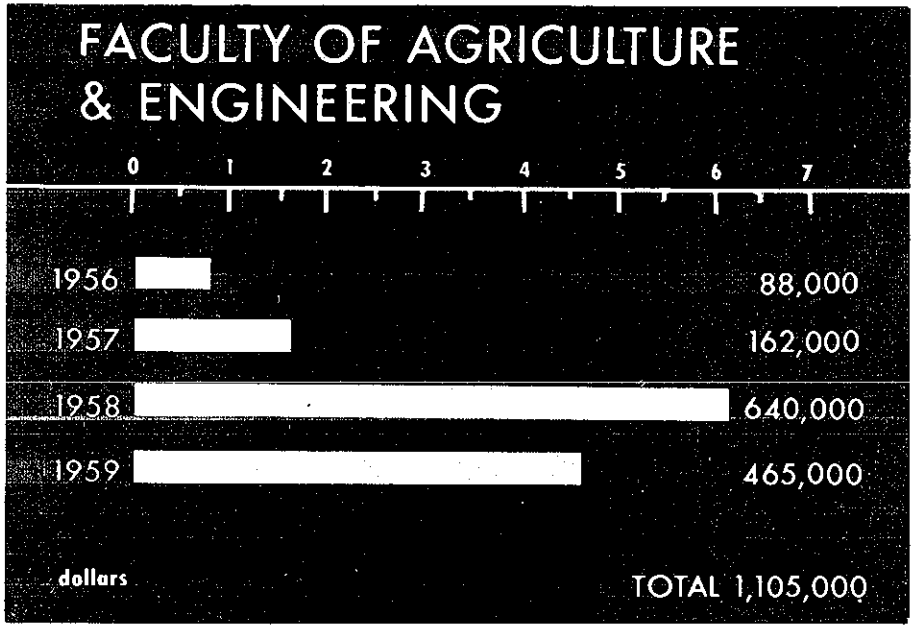
The project technician in Kabul studied such areas as organization of the administrative staff; the relationship of physical facilities to the education program; instructional administration; and the administration of publications and other communications media. Certain equipment and supplies were imported for demonstration purposes during this time.

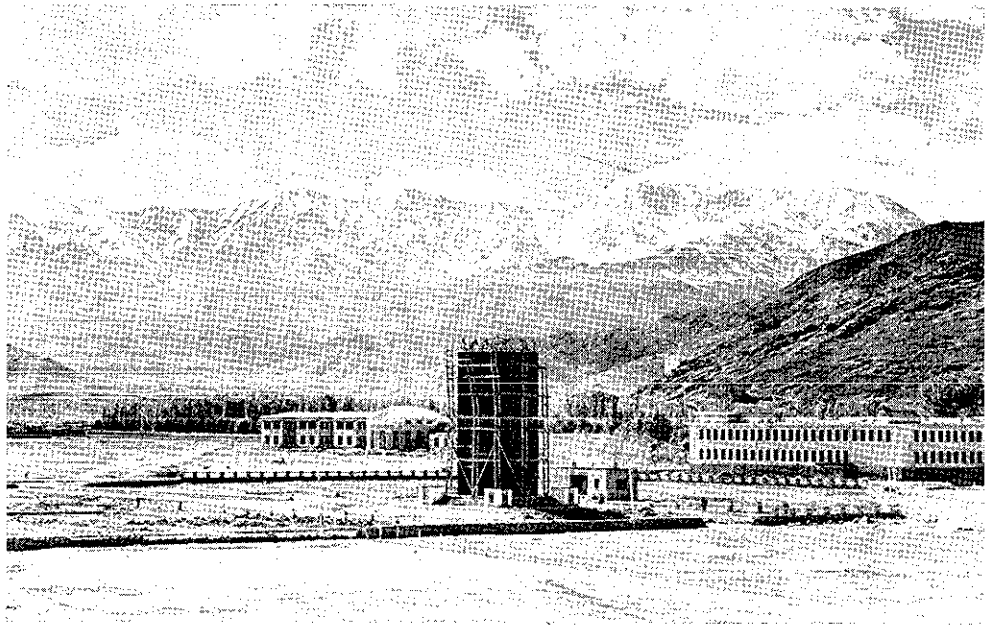
A specialist in medical education administration was assigned to the project for two months and provided recommendations for that branch of University. To prepare for the future Kabul University, ten participants have been sent abroad for study in medical education, hospital administration, student personnel administration, and science education.

The present University campus is scattered throughout Kabul. But a major part of the revamping process includes construction and equipping of five buildings for a new, modern campus. This is provided for through the Afghan-I.C.A. Educational Facilities project described on page 68.

PRESIDENT Mohammed Asghar (right) is going over a report with Dr. Emmett Brown, USOM/A Education Advisor.







SITE FOR the new Kabul University, which will include a new building for the Faculty of Agriculture and Engineering.

The Faculty of Agriculture and Engineering was established under I.C.A. contract with the University of Wyoming as an integral part of Kabul University in March, 1956 -- another significant step toward filling Afghanistan's need for trained personnel.

Beginning with a freshman class of 46 students, a new class has been added each subsequent year so that total enrollment increased to 118 last year, The fourth (senior) year was added in 1959.

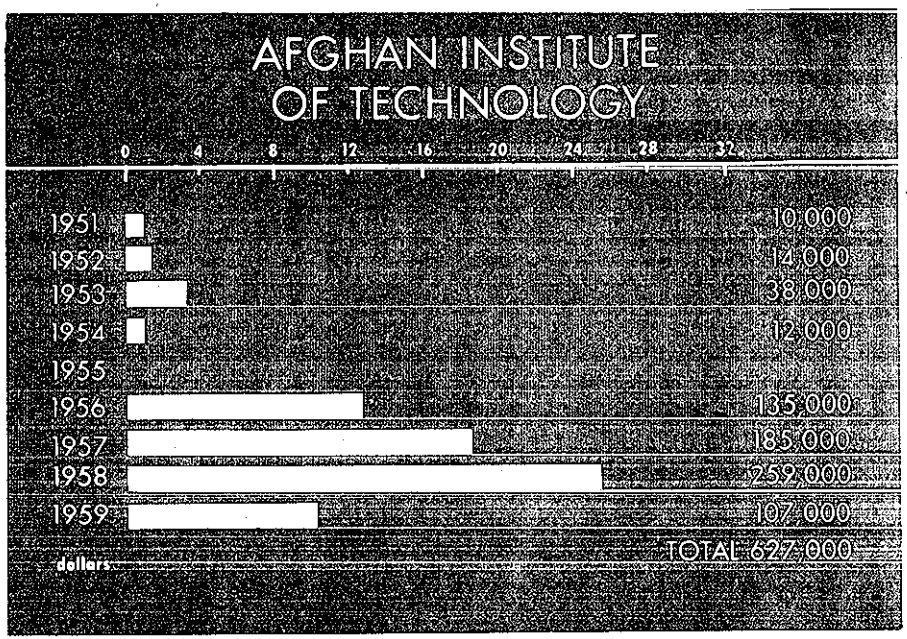
The present staff includes the Dean of the Faculty, Mr. Tooryalay Etemadi; the American project technician; seven full-time American instructors; other American part-time instructors, and five Afghan counterparts. English courses are taught by one American from the Columbia University English Teaching program and two Afghan counterparts. With the addition of the senior year, the staff will be considerably increased.

On the basis of plans for training Afghan instructors, both through study abroad (four participants have been sent to the United States, and nine others will go abroad this year) and the counterpart system, all Americans should be replaced by 1965.

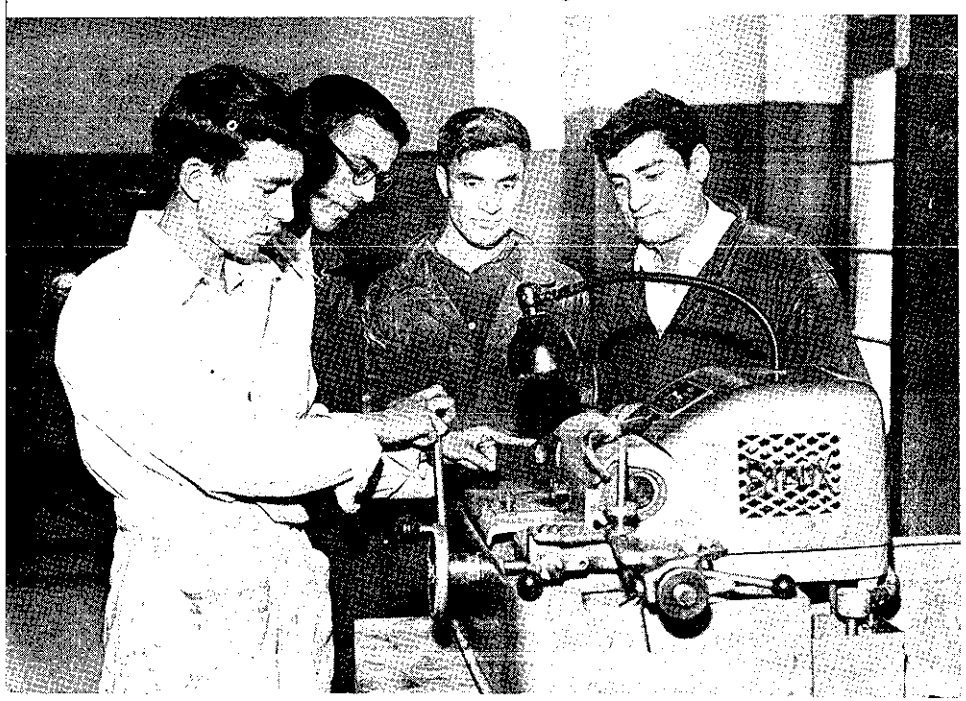
Operations are being conducted in temporary quarters at present. But help is being given Kabul University in its building program under the I.C.A. Educational Facilities project (see page 68). Among the first in priority in this building project is an engineering and a science building for the Faculty of Agriculture and Engineering.

DEAN OF the Faculty, Mr. Tooryalay Etemadi (left), and Dr. Reed Fautin, Project Technician furnished by the University of Wyoming, under contract to I.C.A., discuss changes in University agriculture and engineering curricula.

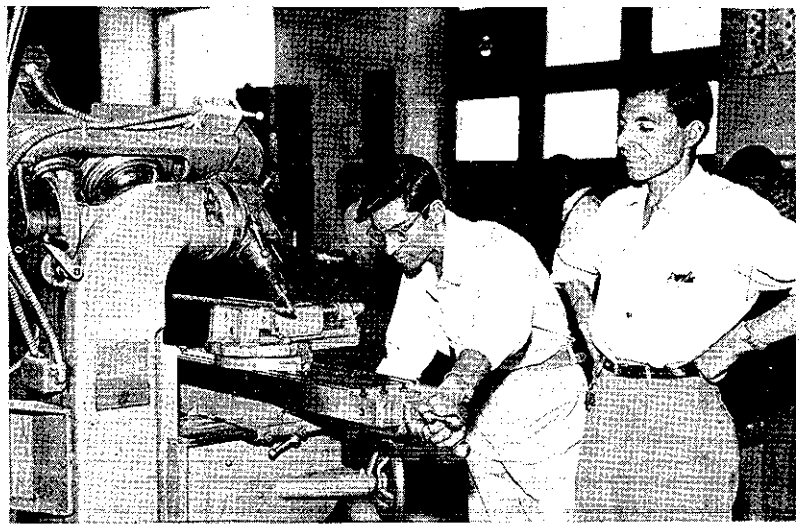
'71



STUDENTS learn to grind valves in an A.I.T. mechanical shop. Their instructor, Ghulam Sahki Taymuree, received trade school training in California through an I.C.A. participant scholarship, returned to assume teaching responsibilities for two years, and recently returned to the States to obtain a B.S. degree in mechanical engineering.



KHAN MOHAMMED SIDIQEE, a member of A.I.T.'s first graduating class, guides a student in operation of a milling machine. He, too, has returned to the States to study toward a B.S. degree in engineering.



As Afghanistan expands industrially, an increasing number of technicians are needed to produce, operate, and maintain its equipment. It was with these needs in mind that the Afghan Institute of Technology, a secondary technical school, was established by the Ministry of Education in March, 1951. Some of the pioneer I.C.A., then T.C.A., technicians arrived that year to teach at A.I.T. The first class, 36 students, was graduated in 1953 after completing a three-year program. Since 1953, A.I.T. has graduated 129 students, some of whom have received advanced training abroad and many of whom have assumed responsible posts in important development projects throughout the country. Still another important purpose of A.I.T. is to prepare graduates to meet entrance requirements of the Faculty of Agriculture and Engineering of Kabul University.

Since January, 1955, the University of Wyoming, under contract with I.C.A., has cooperated with the Vocational Education Department of the Ministry of Education to implement this project. The University is furnishing American technicians in vocational technical education and instructors in mechanics, hand

A SURVEYING class is taught by Abdul Ghafour Qaissaunee. Almost all classes at A.I.T. are now conducted by nationals, with American technicians serving partly in an advisory capacity.

STUDENTS Working in the Hand Tools Shop (10th class).

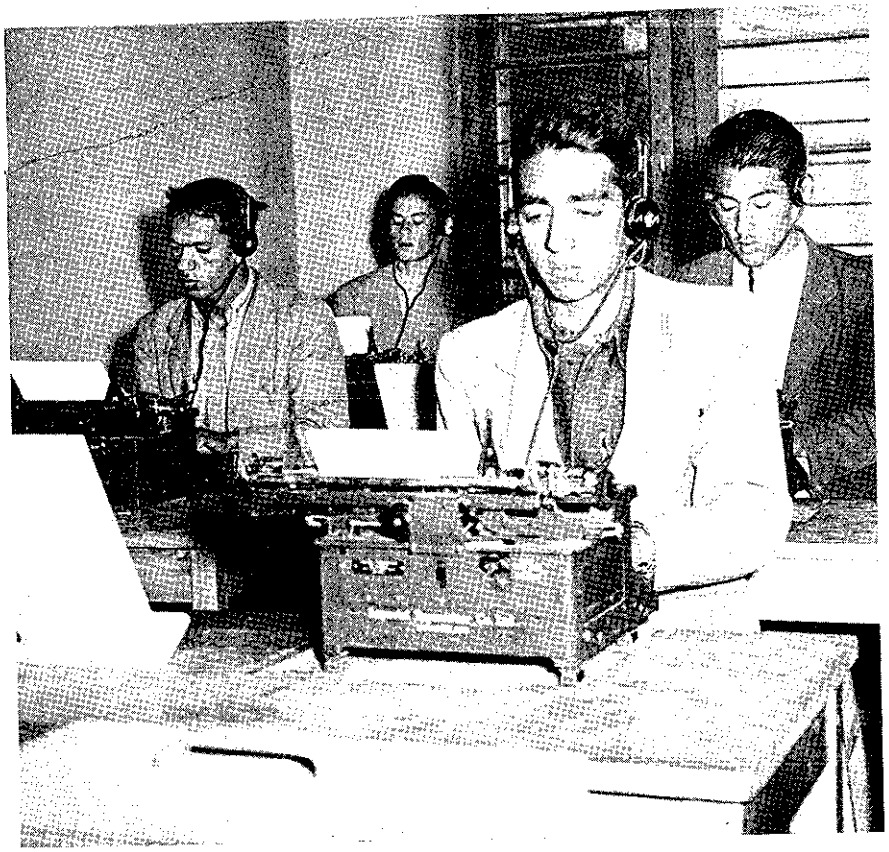
ALLEN WIANT (right), American technician working on the Wyoming Team, talks about the construction of a radio receiver with teachers, A. Satar Atigee (left) and A. Wahed Zia.

tools, and electrical and civil technology.

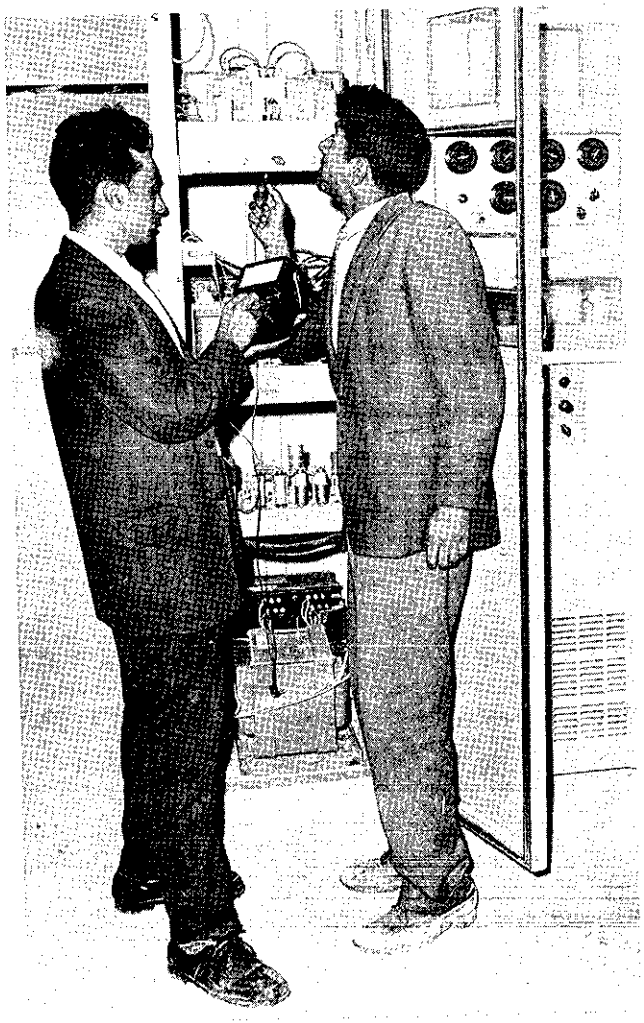
A.I.T. offers training in civil, electrical, aeronautical, and mechanical technology. Entering classes now contain about 100 students. These students are given a rigorous program in spoken and written English, a thorough preparation in pure and applied mathematics and science, and training in basic technical tools, materials, and processes before choosing their field of specialization.

Completion of this project is based on creation of a completely Afghan faculty through participant training. During the last few years, the curriculum has been organized and stabilized to meet the needs of the school and the nation.

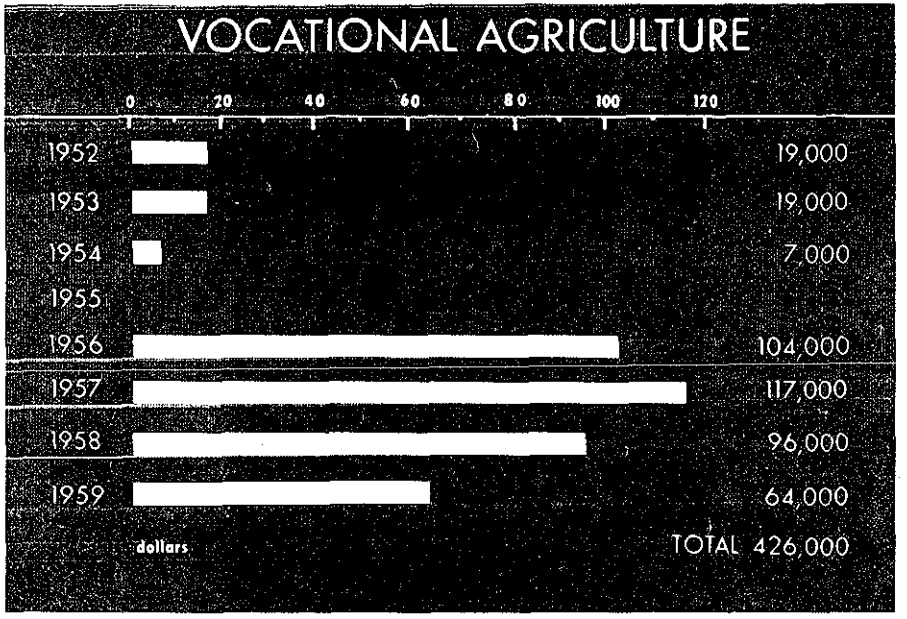
Afghanistan has a modern technical high school well on its way to becoming fully equipped and staffed completely by Afghans.



LEARNING code and typing in Civil Aviation class, these students are being prepared for jobs in Afghanistan's rapidly-growing air program.



GRADUATES of A.I.T. repair a transmitter at the Old Kandahar Airport.



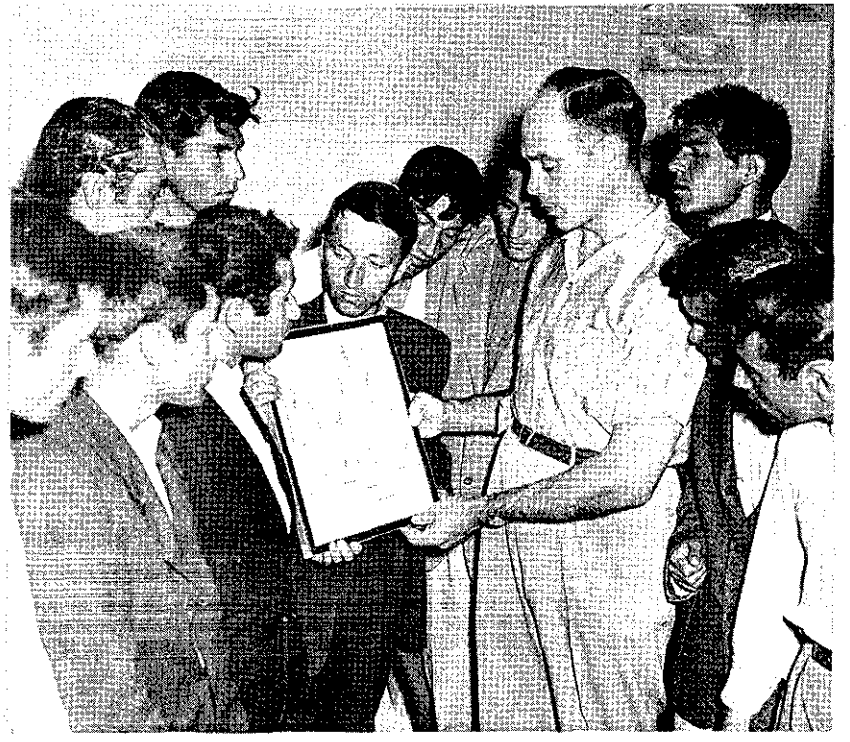


CHART showing different types of wheat grown around the world is shown students by American agronomy instructor, Larry Mitich, after which class considers which are best adapted to local conditions.

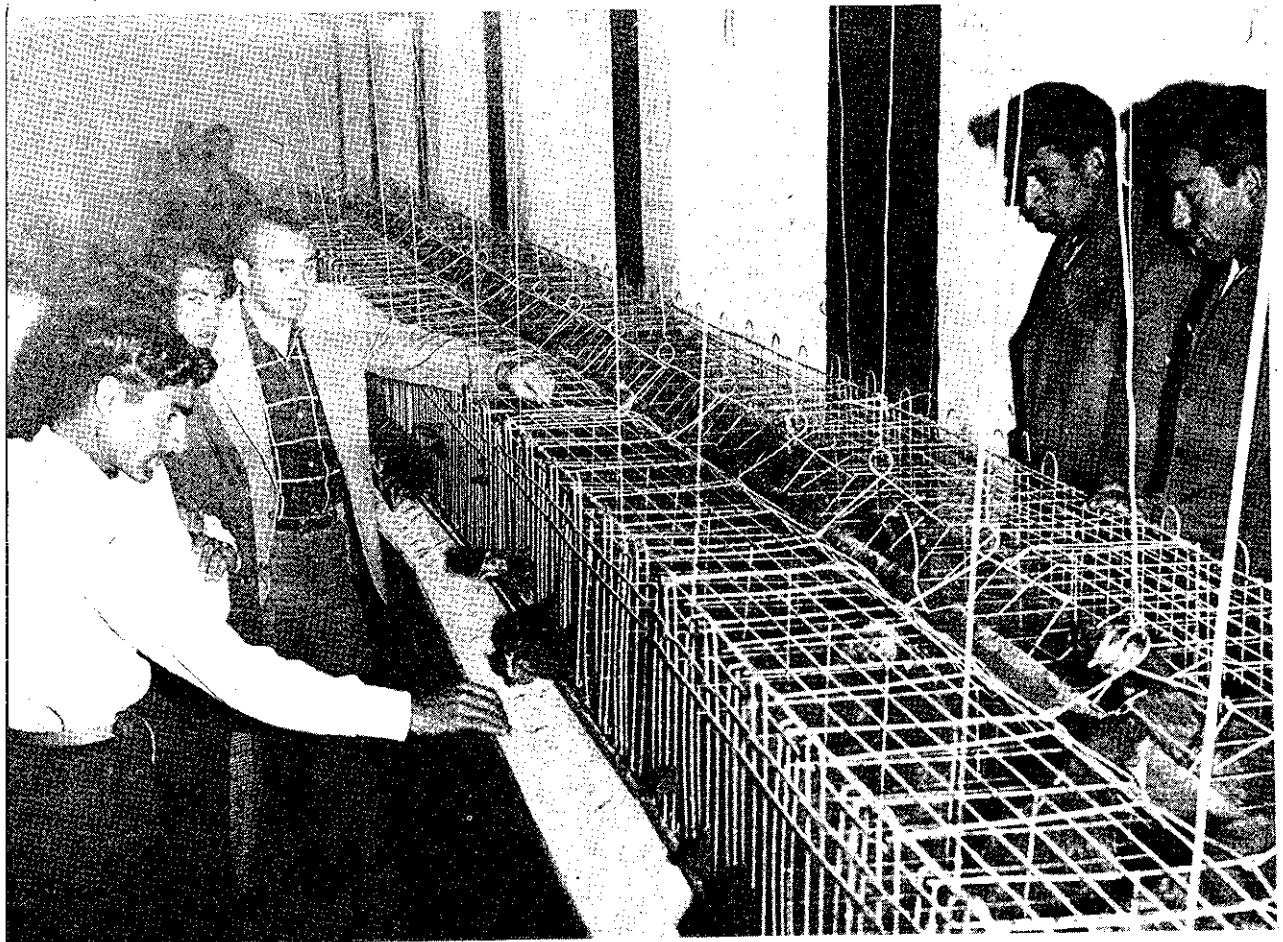
Afghanistan is an agricultural country with 85-per-cent of the people deriving their livelihood from farming and pastoral activities. All of its exports are of agricultural origin.

Yet in 1952, there were fewer than ten trained agriculturists in the country. One of the first I.C.A. agricultural assistance projects began that year when a technical cooperation agreement was made with the Ministry of Education to provide instructors and equipment for the Vocational Agriculture School in Kabul.

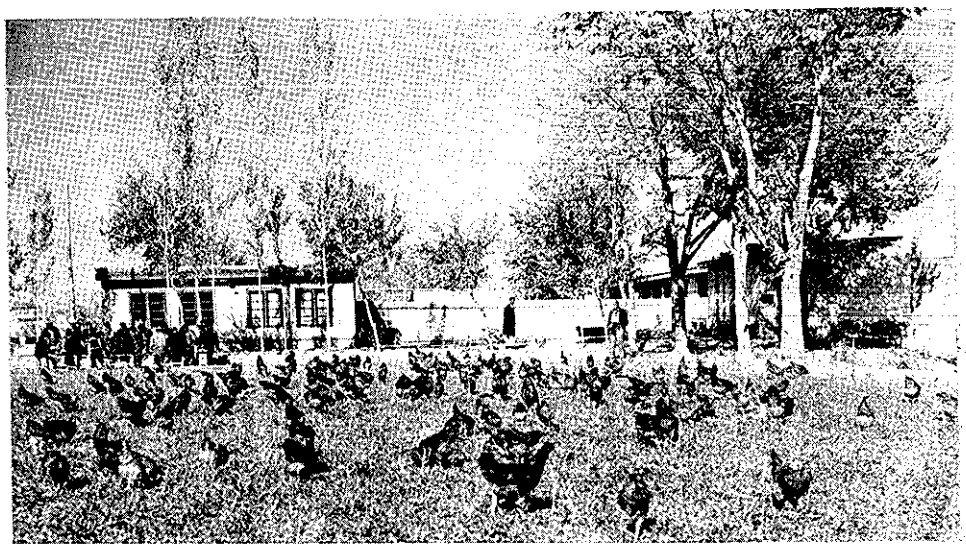
Through this vocational agriculture high school, trained workers are being made available for work in the Ministry of Agriculture, the Helmand Valley Authority, and directly in agricultural pursuits. Also, some of the qualified graduates are entering the Faculty of Agriculture and Engineering of Kabul University. The goal is to double the present number of approximately 40 graduates each year.

The University of Wyoming provides three vocational agriculture teachers for this project. Since agricultural education in academic schools is another facet of the program, one of these teachers is teaching vocational agriculture courses at Darul Mo'Allamein Teachers College.

Imported equipment, supplies, and materials have been furnished by I.C.A. The Ministry in turn has supplied school buildings, dormitories, dining facilities, and local supplies. Thus far 12 participants have been sent to the United States for training in various agricultural education fields. Each year the number of Americans at the Vo-Ag School has decreased as trained Afghans have been assigned to teach there by the Ministry of Education. The final goal of this project is to develop the school to the point where it is fully staffed with Afghan administrators and teachers and is reasonably equipped for efficient operation.



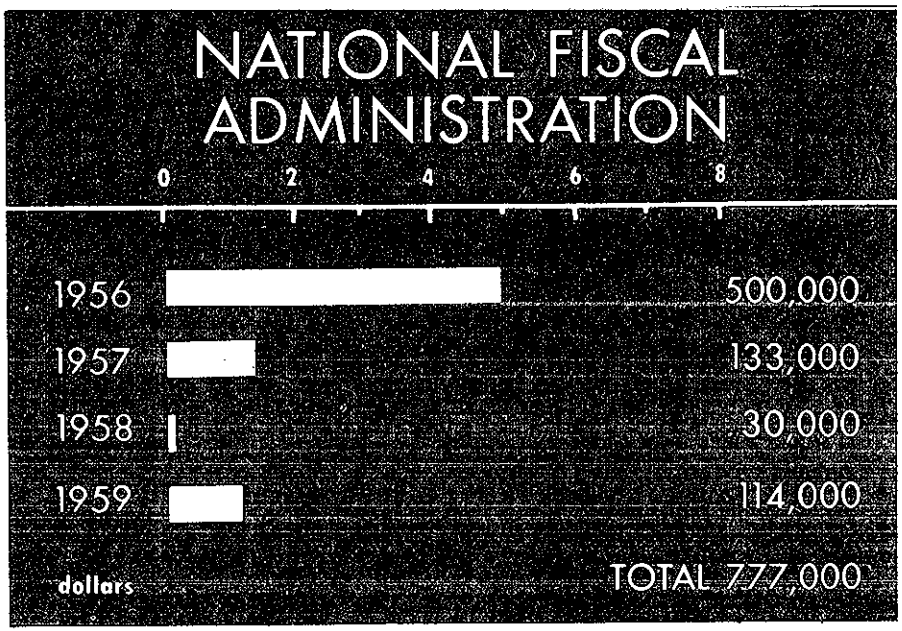
STUDENTS quickly realize that scientifically-bred and fed chickens grow bigger and lay more eggs. Their instructor, Don Yeaman, points to special pens designed for protection against weather and disease.



A FLOCK of pullets in the Vo-Ag School poultry yard.

NOTHING can substitute for "sitting in the driver's seat." Coached by a University of Wyoming instructor, this student runs a tractor supplied by I.C.A. for demonstration purposes. Farm implements, small tools, laboratory, soils testing, poultry, and other equipment have also been supplied.

IN ANIMAL husbandry class, Vo-Ag students learn about different breeds of animals and how to treat them for common diseases.

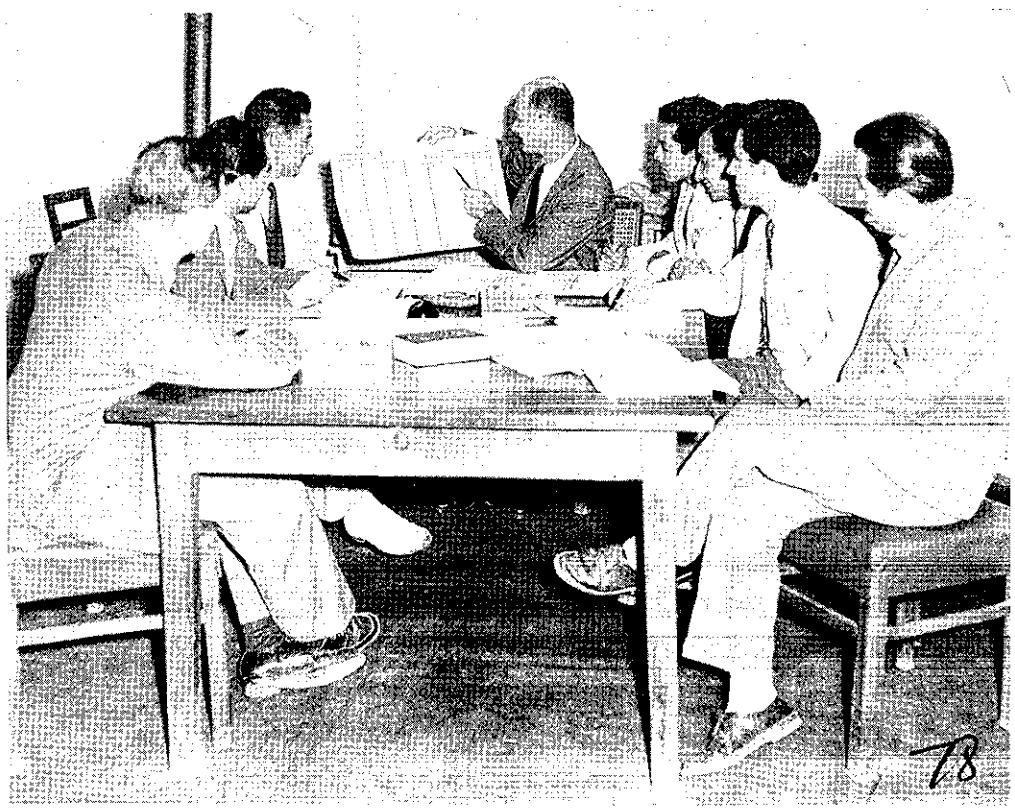


The Royal Government of Afghanistan is committed to an extensive program of economic development which involves major increases in Government spending. This is especially evident in the large land reclamation, power, transportation, and industrial projects. Not only has significant foreign borrowing been necessary but the Government's afghani budget requirements have greatly increased. Financing these efforts -- including the repayment of foreign loans -- will require sound application of modern fiscal management systems and principles.

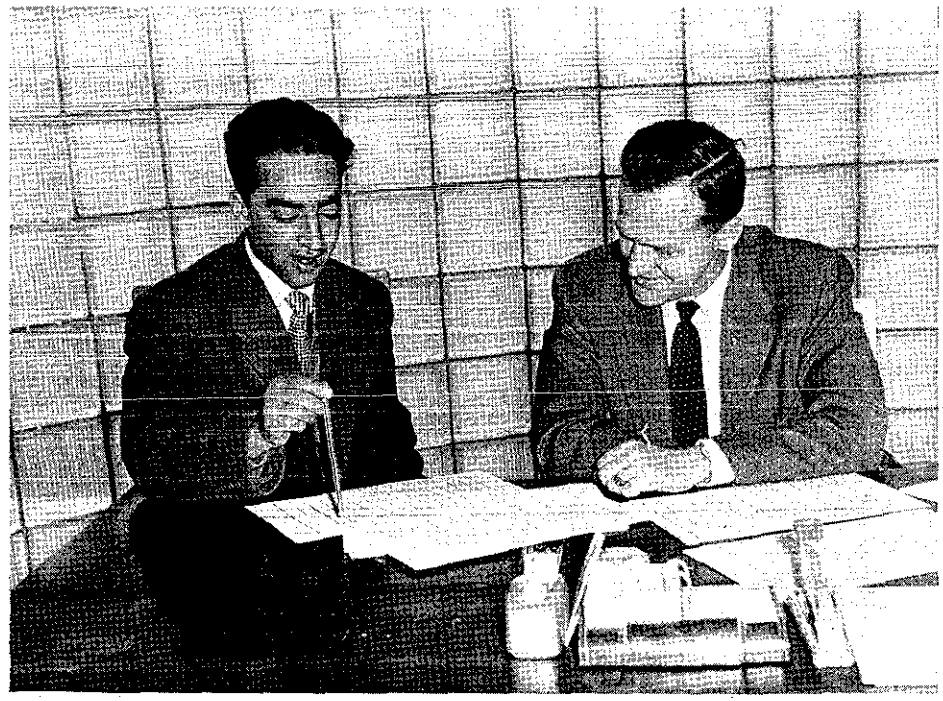
The national Government's increasing awareness of this need has

YAR MOHAMMED, Director-General, Administration Department, Ministry of Finance, and Donald E. Nemetz, Chief of PAS Party (1957-59), discuss a fiscal management principle.

HERE PAS Accounting Advisor to the Ministry of Finance, Charles Winter, and Afghan counterparts from the Departments of Accounting and Budget, adapt present accounting forms to the newly adopted accounting system.



MRS. KATHERINE HUDSON, PAS Administrative Officer, is training counterparts in use of new calculating machines purchased with I.C.A. funds for installation in the Ministry of Finance.



FORMS in Afghan Persian for use in developing the newly approved Budget System are prepared by Ream A. Lazaro, Chief PAS Team (1959-62), and his chief counterpart, Mohammed Yosuf Ayoubi, Director of Budget Preparation, Ministry of Finance.

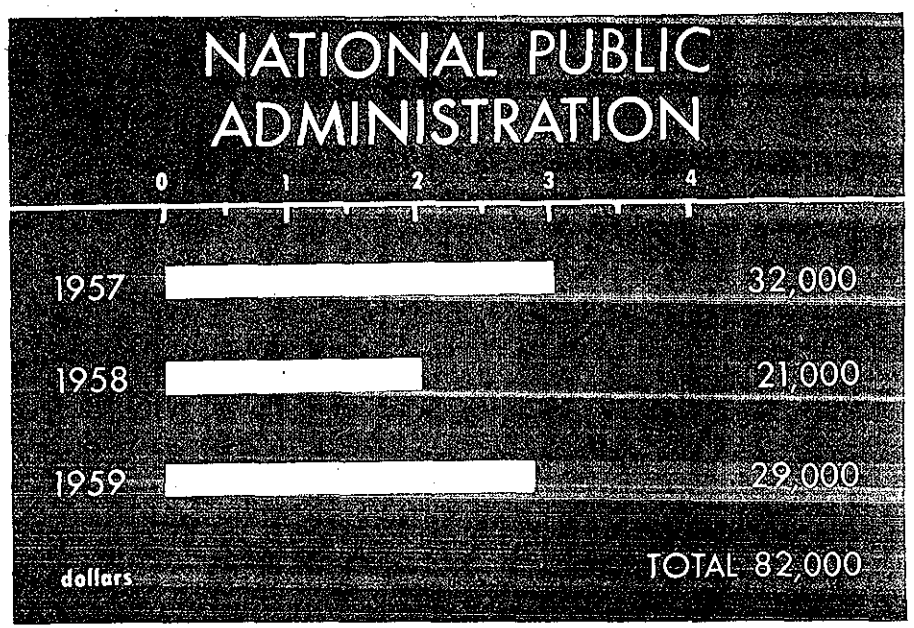
resulted in this comprehensive program of advisory services to the Ministry of Finance in the field of fiscal management.

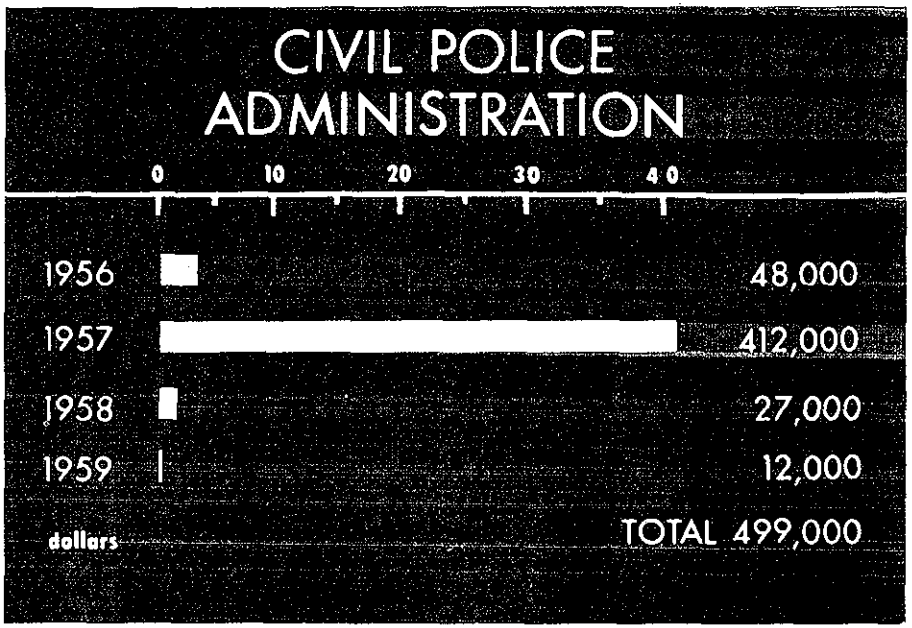
An I.C.A. contract with the Public Administration Service provides the Ministry with one technician in each of these areas: General Management, Budgeting, Accounting, Revenues, Statistics, Cadastral Survey, and Assessment.

Only a few participants have been sent abroad for training -- eight thus far -- because of the emphasis on on-the-job training provided by the American technicians here in Afghanistan. One outstanding example of this is the cadastral and assessment training school which has been established in the Helmand Valley for 35 Ministry employees.

One of the basic goals of the Public Administration team has been to strengthen the internal organization and administrative processes of the Ministry of Finance and redefine its relationships with other Government agencies. New or improved systems have been developed in the area of budgeting, accounting, and revenue administration. Now that preliminary surveys and recommendations have been made in these different fields, PAS's job is to assist the R.G.A. in installing these systems throughout the Government.

This year assistance is being given in a most important and practical area -- preparation of a national budget for the R.G.A. fiscal year 1959-60 which will incorporate all the elements of the proposed new system.





Training of young Afghan officials in public administration is the main objective of this project. Thus far eight participants have completed training either in the United States or Iran and have returned to essential positions in the Government.

The Technical Assistance Liaison Office in the Prime Ministry has served as the cooperating agency with I.C.A. in selecting these men from several Ministries and Agencies.

Another secondary purpose of this project is to train and supply people with management skills for agencies in which I.C.A. technical assistance and economic aid programs are being conducted.

The Participant Program in general is a very important part of I.C.A. activities in Afghanistan, with over 300 students having already been sent abroad for training. (See page 90.)

Improvement of civil police services through introduction of modern equipment and techniques is the basic goal of this program.

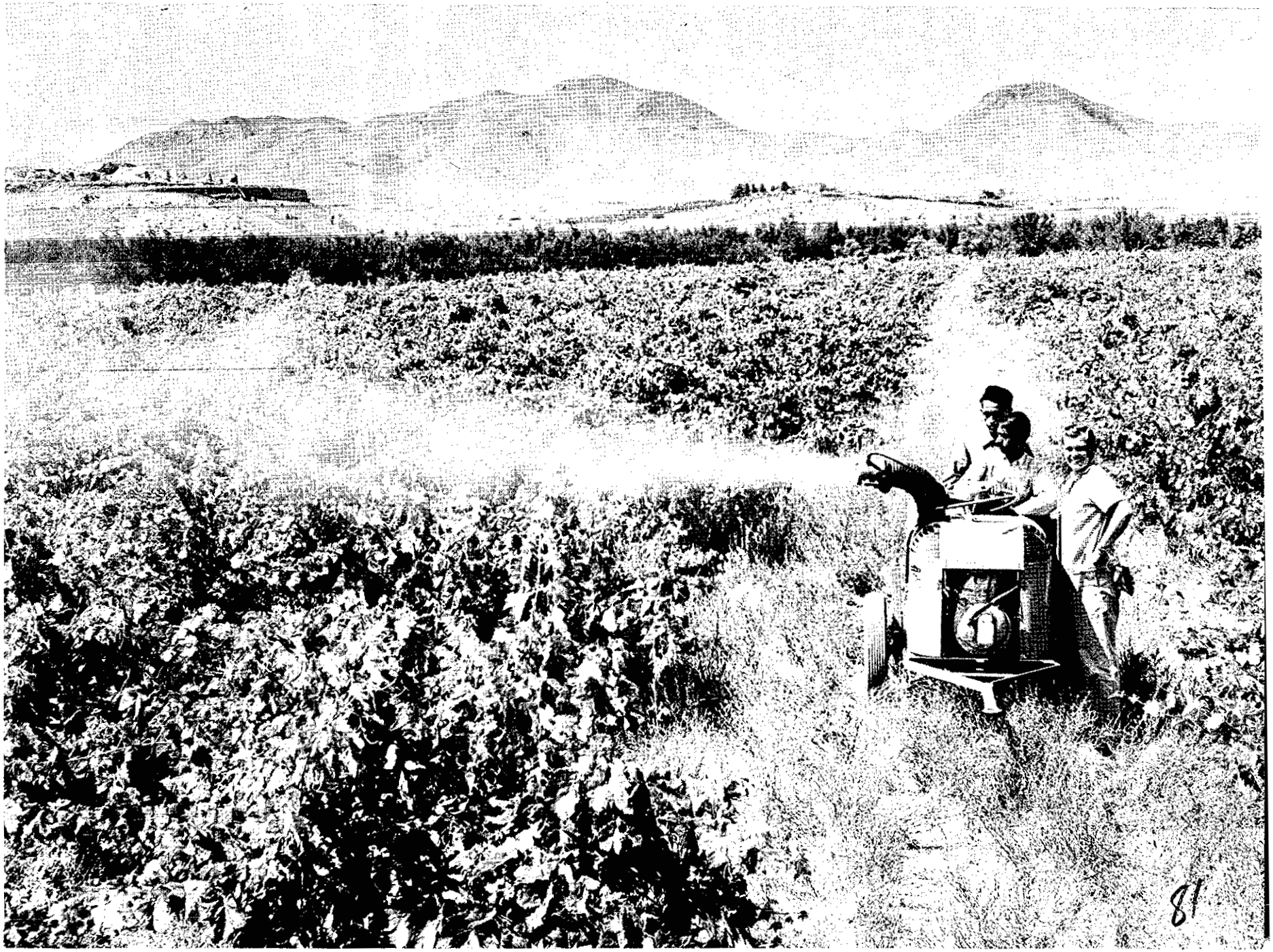
I.C.A. provided the Afghan Police Department with a Civil Police Advisor for one year, during which time priority equipment needs were determined and participant training was supervised.

Twenty young civil police officers have already received specialized training in the United States, and two more will be sent this year.

Some $330,000 worth of commodities have been ordered and are arriving. These range from major pieces of equipment, like specially designed motor vehicles, to photographic and other delicate identification equipment.

AGRICULTURE

ENTOMOLOGIST Don Shallow supervises demonstration spraying of grapes -- one of Afghanistan's chief exports.

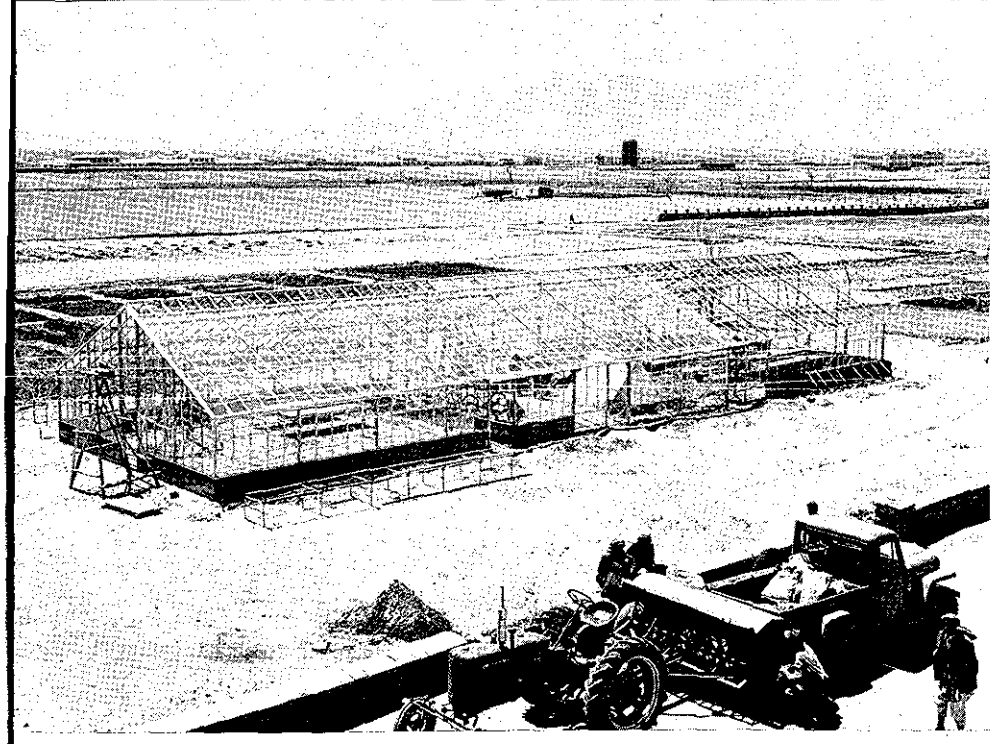


National Agriculture Development

Afghanistan depends upon land and water resources to support its economy. But only about eight-per-cent of the total land area is cultivated in any given year. Seventy-two per-cent of the national income is derived from agricultural products, such as wheat, fruits and nuts, karakul and hides, livestock and cotton.

Overwhelming emphasis on cereals, principally wheat, produced with primitive methods on cultivated lands results in very low yields per acre and output per worker. This project is designed to meet the urgent need for increasing national agricultural output. Through the project, technical assistance is provided the Ministry of Agriculture and the Helmand Valley Authority in the fields of agriculture, forestry, and range management.

WORK AT the Central Research Station in Kabul has revealed that wheat and alfalfa yields can be increased. A new variety of wheat which outyielded many local varieties was introduced last year.

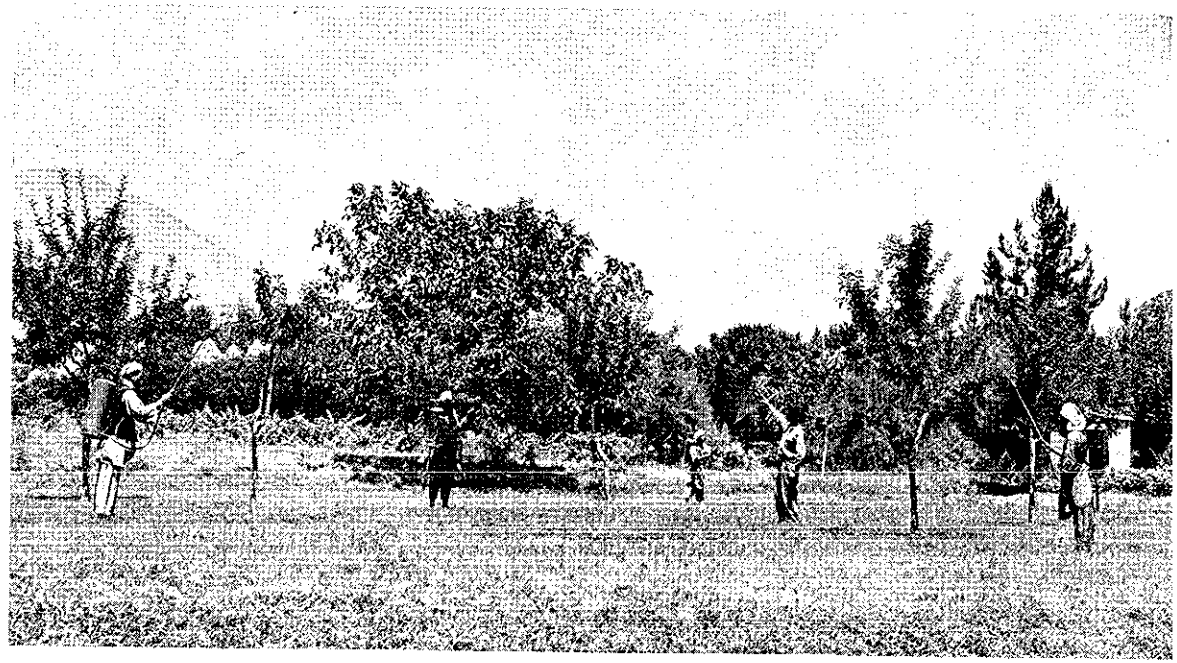


UNIVERSITY OF WYOMING technician records data on tomato plants at Research Station greenhouse. Research has resulted in improved varieties of tomatoes, bell peppers, eggplant, lettuce, and other vegetables being recommended for use in the Kabul area.

Major activities are advising and aiding these agencies in operating certain elements of a modern agricultural program -- research stations, farms for seed increase and plant propagation, agricultural extension and plant protection services, and the nucleus of a forestry and range management unit. Training of the Afghan personnel needed to carry on and expand these activities is an important part of the program.

A research team from the University of Wyoming under contract with I.C.A. has established agricultural research stations at Kabul and at Marja in the Helmand Valley. Another is being started at Darweshan in the Helmand Valley. Already the Kabul station has

HAND-SPRAYING
a fruit orchard near Kabul with I.C.A. supplied chemicals.



obtained excellent information on adaptable varieties of wheat, alfalfa, oats, barley, field corn, tomatoes, peas, squash, lettuce, onions, and many others.

In the past six years Afghanistan has had to import wheat four times due to crop destruction from rust. With variety information on wheat available, I.C.A. can, through its extension program and seed increase work, materially aid in overcoming the wheat deficit from which the country suffers.

Work with the Ministry on insect control has been started. Large demonstration campaigns were conducted in areas between Kabul and Kandahar against the almond web worm. Almonds are an important export crop.

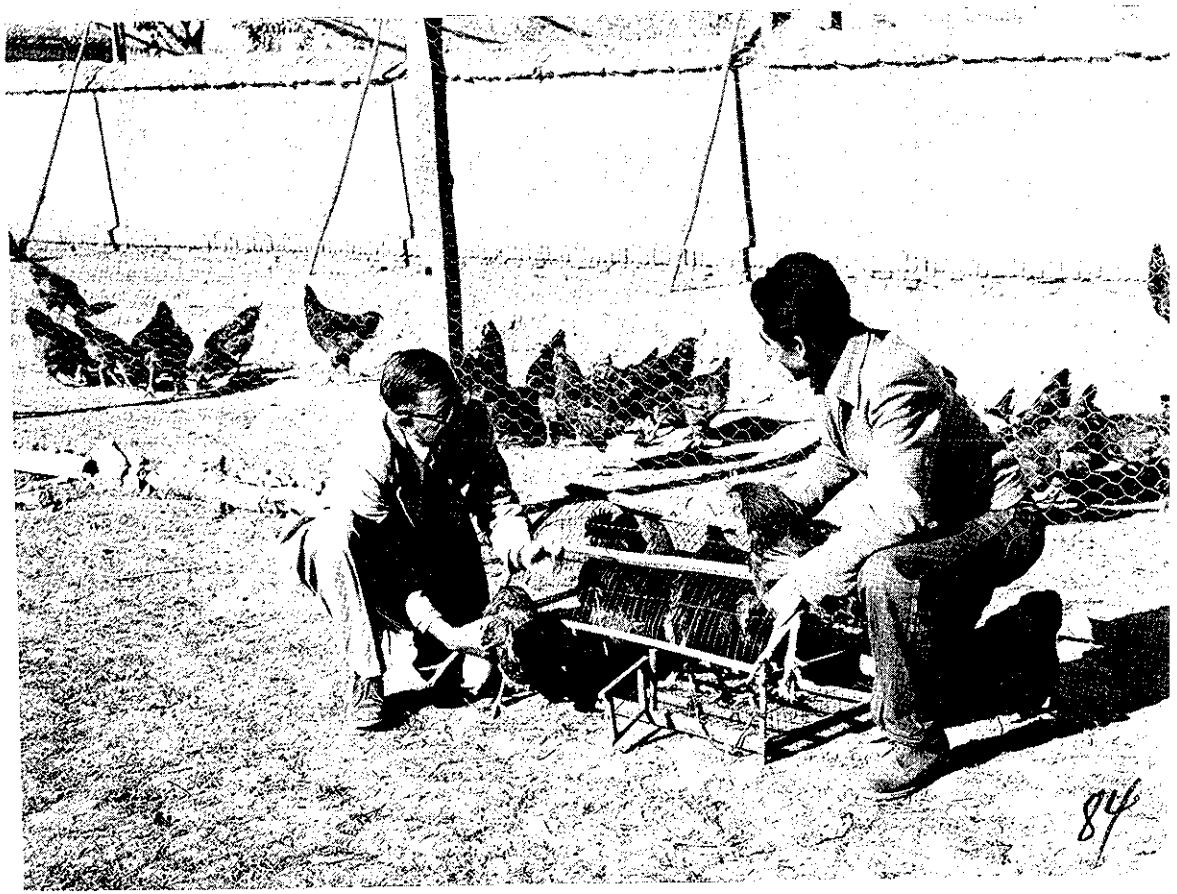
Substantial results from a forestry program require many years. Yet a good beginning has been made through participant training, organizing a forestry service, and establishing and operating tree nurseries. There are now four nurseries in the Helmand Valley -- at Girishk, Shamalon, Marja, and Nad-i-Ali. Emphasis has been on planting orchards, windbreaks, and farm woodlots. Approximately three million trees have been removed from these nurseries and transplanted.

Many commodities, such as agricultural machinery, have been purchased by I.C.A. to facilitiate attainment of project goals.

SUCCULENT
Afghan grapes and raisins are famous throughout Asia. These grapes flourished because of a dusting campaign against powdery mildew.

ASH TREES are lifted from nursery for out-planting as windbreaks in the Helmand Valley.

FARMERS learn the value of these trees, planted as a windbreak in Nad-i-Ali.



EXTENSION Advisor Frank Shuman and Mr. Abdul Aziz prepare to trade Rhode Island Red roosters for village roosters in a program to improve breeds of chickens in a village near Kabul.

National Rural Development

Rural development is given high priority in the Five-Year-Plan of the Afghan Government. Such a program is believed to provide the best means for the Ministries concerned to serve the people in improvement of agriculture, health, primary education, marketing, housing and community organization, and also to motivate rural people to undertake self-help activities.

Assistance was given the Rural Development Commission through cooperation with the Ministry of Trade and other Afghan agencies to determine the best methods of carrying out the above improvements and the specific contributions of each Ministry involved.

Near East Foundation and USOM/A rural development personnel worked with these agencies primarily in the Logar Valley near Kabul and the Helmand Valley in the southwest. Besides testing field procedures and techniques in these project areas, they carried out demonstrations in the villages.

Since the essential objective of this project is to assist in training Afghan personnel to carry on the program, training centers for village level workers and specialists were set up in the Helmand Valley in cooperation with the Helmand Valley Authority.

AMERICAN corn seeds are distributed to Loghar Valley farmers.

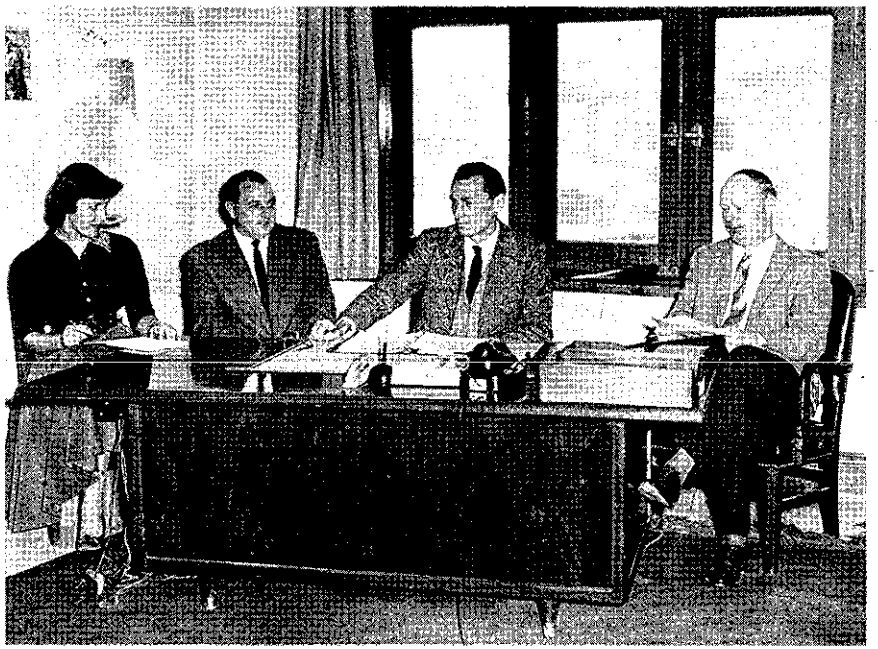
A LESSON in planting corn in rows rather than "broadcasting" is given by American technician with assistance of Afghan translator.

Technical Support

Many supportive activities of the United States Operations Mission to Afghanistan are not limited to one specific project. Often they are indirectly related to the development and implementation of many projects. A project of Technical Support has therefore been established to provide necessary backstopping for the program as a whole. In this category is included the support of Technical Division Chiefs and multi-project Secretaries as well as commodities in substantial amounts. The basic goal of the project is realization of the objectives of the over-all program in Afghanistan.

THE CONTRACTS Officer, Chief of Industry and Transportation, and Assistant Program Officer go over the draft of a new contract with the Mission Director. These supporting personnel are only a few of the people necessary for carrying on the Mission's varied activities.

THE CONTROLLER, End Use Officer, Budget-Accounts Officer, and Accountant are responsible for financial management of Mission activities. The work of the Controller's section includes such duties as compiling budgets, conducting audits of specific areas of operation, seeing that project commodities are properly used, and maintaining adequate accounting records.



THE EXECUTIVE OFFICER
meets with his staff, which includes his Secretary, the Area Operations Officer, and the Assistant Executive Officer. General Services, Personnel, and Procurement for the entire U.S. Operations Mission are under the supervision of the Executive Office.

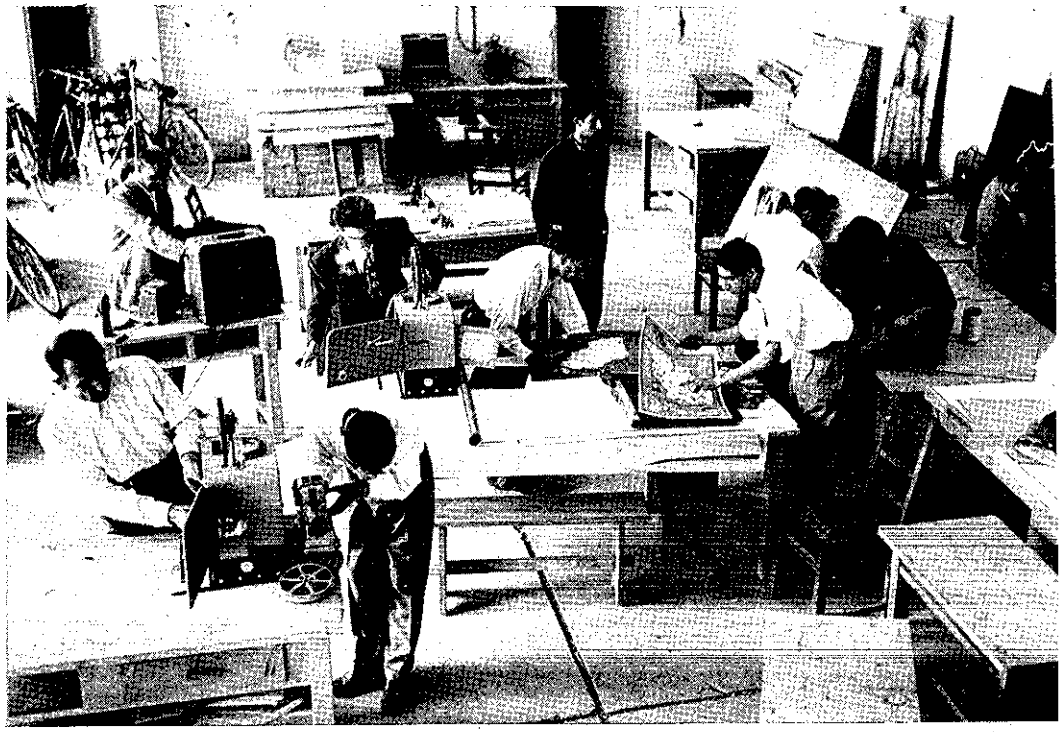
THE GENERAL SERVICES
staff takes care of the Mission's needs in the areas of property, housing, fuel, motor pool, warehousing, and maintenance. Gas for running the various project vehicles is stored in the tank shown in the rear.

Mass Communications

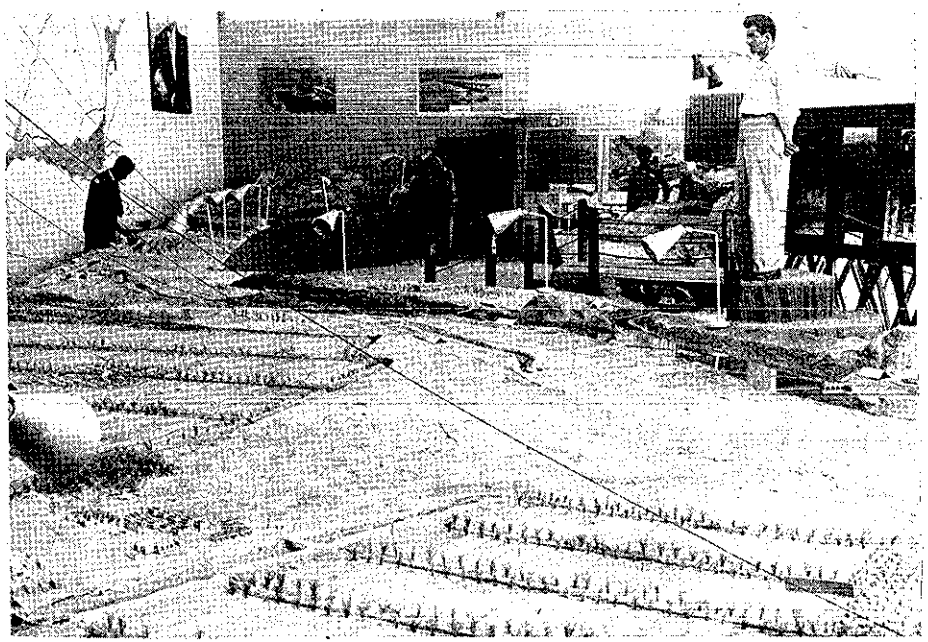
Each I.C.A. technician, advisor, and administrator has the problem of communicating with the Afghan people. Differences of language and culture must be overcome. It is the job of the Communications Media Branch to assist in overcoming these differences, thereby helping Afghanistan to progress, through modern audio-visual methods; such as movies, filmstrips, publications, teaching materials, posters, and other media.

Working closely with Afghan Ministries and Agencies, this department also assists and advises them in the use of the above modern methods of communication.

A modern Communications Media Production Center has been established at the U.S. Operations Mission to Afghanistan headquarters. Two American technicians and a staff of seven Afghans are employed.



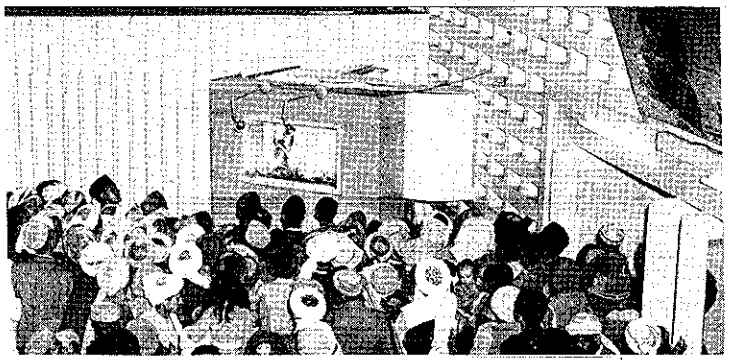
CLASS of Afghan teachers receives instruction in proper operation of a movie projector.



JAMES A. CUDNEY and V. Roxor Short of USOM/A Communications Media present a program on photography for an Afghan audience in USIS Library.

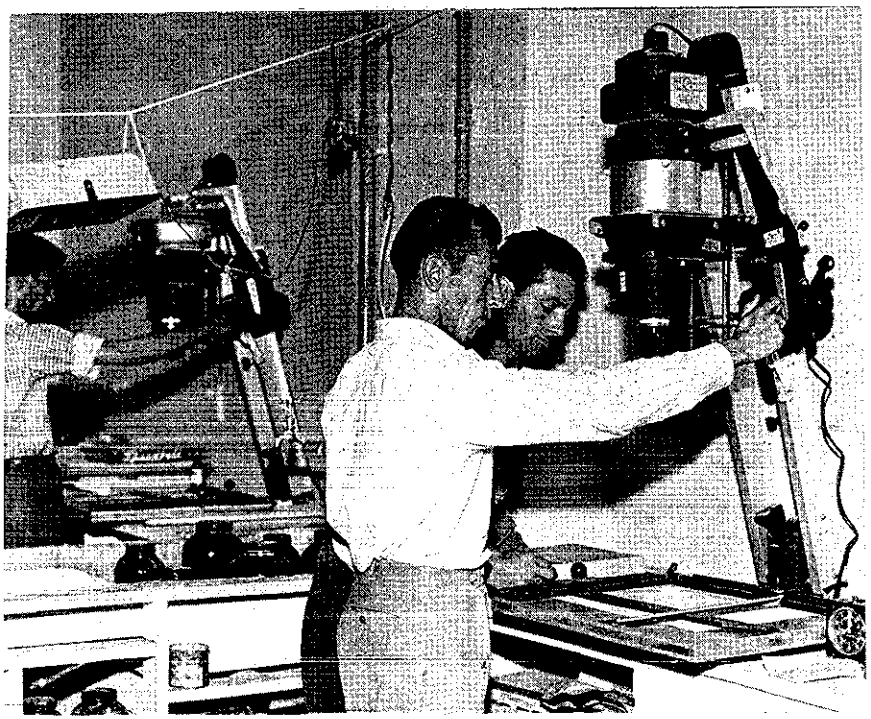
THE STAFF of Communications Media worked with the Helmand Valley Authority in preparing a 120-foot working model of Helmand Valley projects, for display at the annual Jeshyn Fair, where it was viewed by thousands of Afghans.

KABUL RADIO announcers Hahkwala and Benah interview Mr. Daud Mohammed of the Ministry of Agriculture, while making an on-the-spot recording at site of spraying operations for a Ministry of Agriculture radio program.

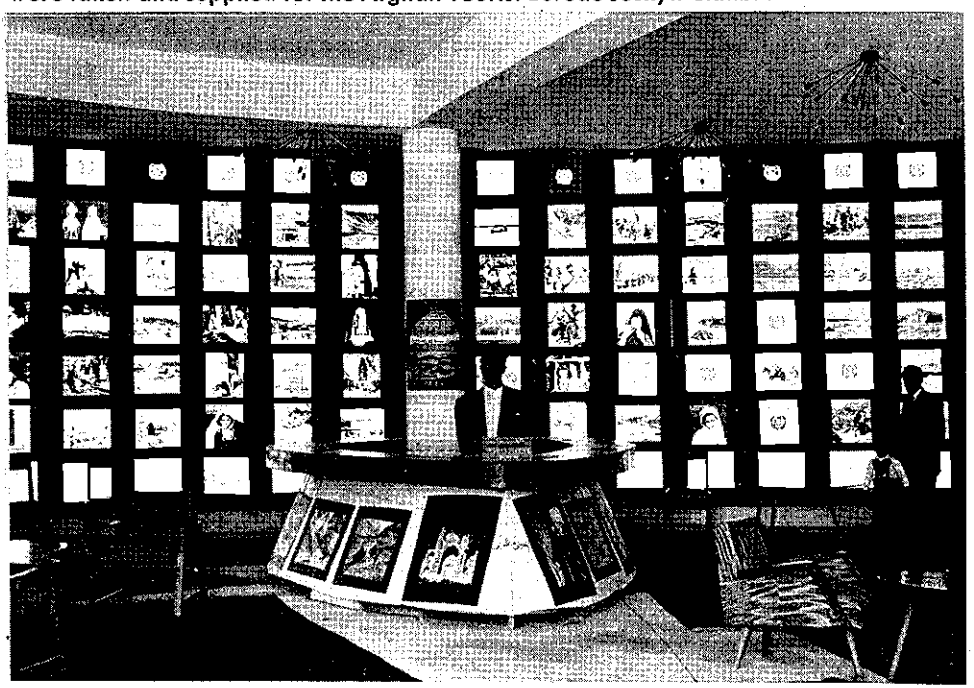


PUPPETS teach the value of trees at Jeshyn program prepared by Communications Media.

TECHNIQUES are taught at Ministry of Education Audio-Visual Center darkroom.



ONE-HUNDRED-AND-TWENTY "translite" pictures of Afghanistan were taken and supplied for the Afghan Tourist Bureau Jeshyn exhibit.



Participant Training

Who can better carry out the many vital development programs Afghanistan has undertaken than nationals themselves? United States technicians can only partially fill Afghanistan's need for trained and skilled persons, even though they are both doers and teachers. For this reason, the Participant Training Program has always, of necessity, been an integral part of Technical Cooperation.

Over 300 participants have been sent from Afghanistan to the United States or a third country for training and study since 1952. These students are called "participants" because they are participating and sharing in a mutual program of cooperation between Afghanistan and the United States. They are participating in promotion of a better way of life for their nation.

Training programs have ranged all the way from aviation, architecture, and agriculture to specialities in irrigation engineering, opthalmology, and nuclear physics. Afghan students have joined American college students studying on campuses from coast to coast.

Participant scholarships may involve academic study, practical training programs, or observation training programs. They can vary in length from six months to four years, or more.

THIS GROUP of Afghan participants met with USOM/A Director Robert M. Snyder and Dr. Arthur Mekeel, Training Officer, prior to departure early this year for study at the American University of Beirut.

DR. ARTHUR MEKEEL talks with Afghan participants.

Afghan Participants

Appendix 1

Over 40 per-cent of trainees in recent years have been sent to a third country, among them Germany, India, Iran, Iraq, Turkey, the Philippines, and Lebanon. USOM/A has a contract with the University of Beirut, for instance, to provide one-to-four-year study programs in agriculture, engineering, education, public administration, business administration, pharmacy, public health, and nursing. Such an arrangement offers the advantage of shorter travel time, fewer adjustments, and mutuality of problems to be solved. In the case of the American University of Beirut, and with most scholarships, the various Afghan Ministries choose candidates for I.C.A. grants, usually with the advice of I.C.A. technicians in the respective fields. The participant program, like other phases of I.C.A., is basically a response to the needs and desires of the host country.

All candidates must take an English examination and have sufficiently good grades to qualify for entrance to the university selected.

Many participants have already assumed important leadership posts in Afghan-U.S. development projects since their return. Some have replaced or will be expected to replace the American technician, advisor, or supervisor.

Participants as of January 15, 1959

By Categories of Study

Agriculture	86
Architecture	2
Audio-Visual	5
Aviation	14
Business Administration, Economics and Banking	10
Education	56
Engineering	21
Hydro-electric Survey	4
Medicine	11
Mining	6
Nuclear Science	2
Petroleum Technology	4
Police Administration	21
Public Administration	26
Public Health	25
Rural Development	12
Science and Mathematics	5
Veterinary Medicine	2
TOTAL	312
Second Tour Participants	15
GRAND TOTAL	297

By Countries

United States	180
Germany	1
India	14
Iran	35
Iraq	6
Lebanon	71
Philippines	3
Turkey	4
TOTAL	314
Second Tour Participants	17
GRAND TOTAL	297

AFGHANISTAN-UNITED STATES TECHNICAL COOPERATION PROGRAM

Fiscal Years 1951-1959

(Figures rounded to the nearst $1,000)

FISCAL YEAR	PARTICIPANTS	U.S. EMPLOYED TECHNICIANS	CONTRACT SERVICES	DEMONSTRATION TRAINING SUPPLIES AND EQUIPMENT	OTHER COSTS	TOTALS
1951	$ 10,000	$	$	$	$	$ 10,000
1952	47,000	93,000	27,000	74,000	25,000	266,000
1953	80,000	257,000	15,000	187,000	58,000	597,000
1954	71,000	614,000	210,000	300,000	42,000	1,237,000
1955	104,000	542,000	1,011,000	219,000	71,000	1,947,000
1956	254,000	460,000	1,428,000	509,000	201,000	2,852,000
1957	297,000	584,000	1,037,000	480,000	416,000	2,814,000
1958	401,000	825,000	1,039,000	446,000	406,000	3,117,000
1959	159,000	791,000	1,584,000	287,000	479,000	3,300,000
TOTAL	$ *1,423,000*	$ *4,166,000*	$ *6,351,000*	$ *2,502,000*	$ *1,698,000*	$ *16,140,000*